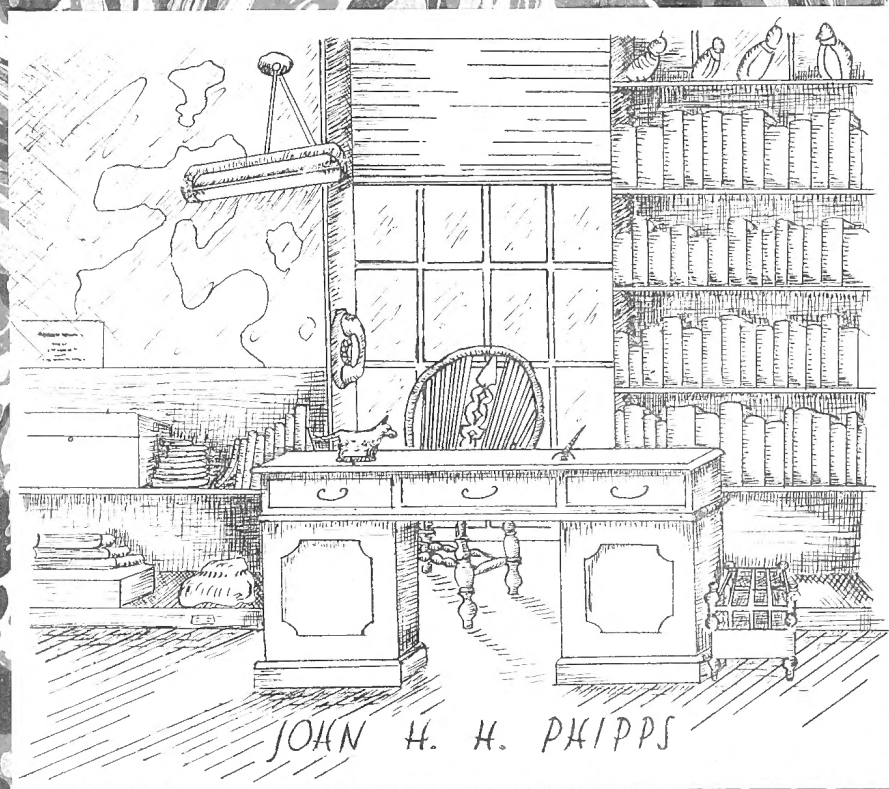
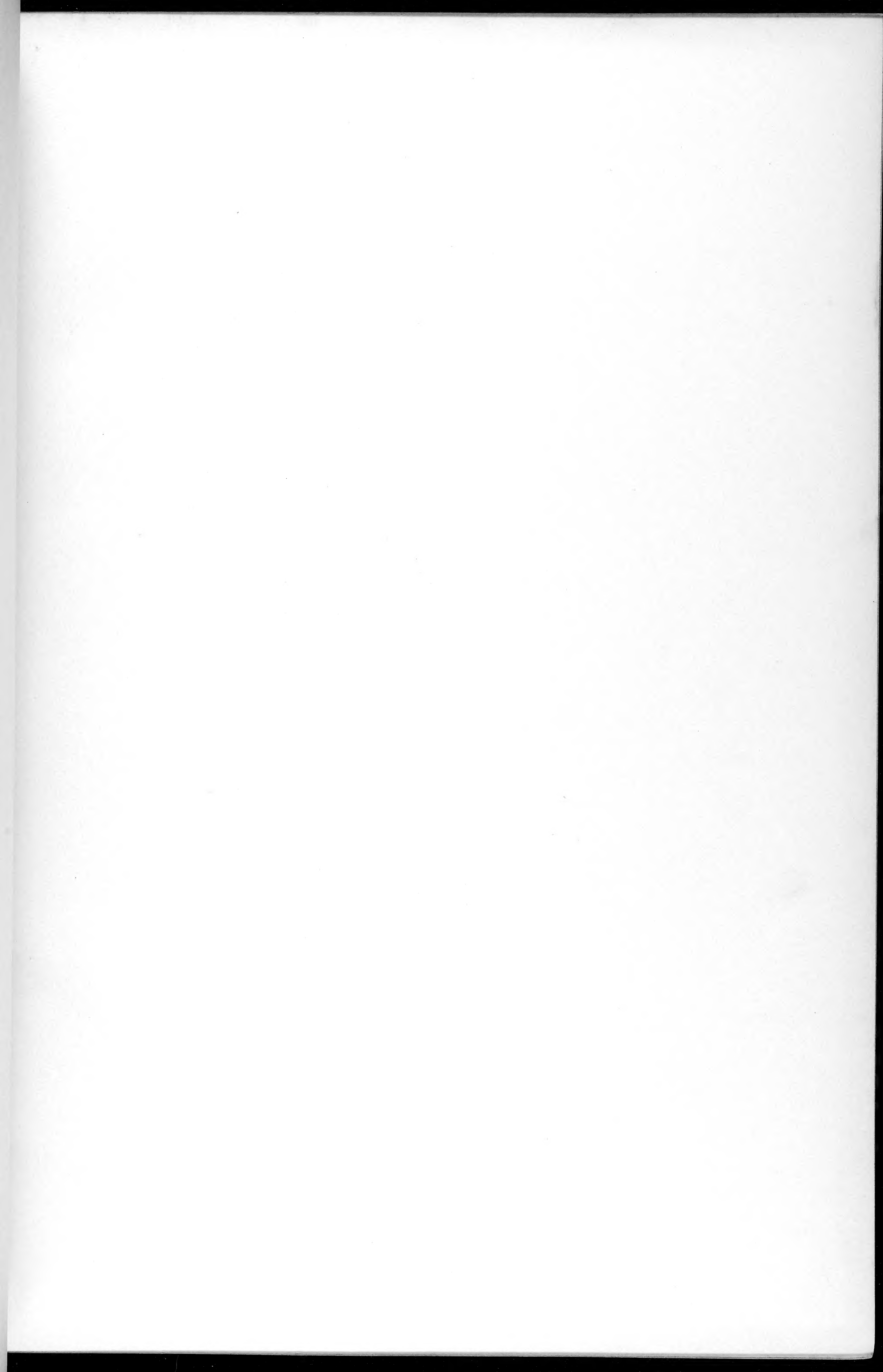


SIR DAVID LIONEL
GOLDSMID-STERN-SALOMONS BART
OF BROOMHILL TUNBRIDGE WELLS





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THE
BIRDS OF ASIA.

BY

JOHN GOULD, F.R.S.,

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HON. MEMB. OF THE NAT. HIST. SOC. OF DARMSTADT; OF THE NAT. HIST. AND THE NAT. HIST. AND MED. SOCS. OF
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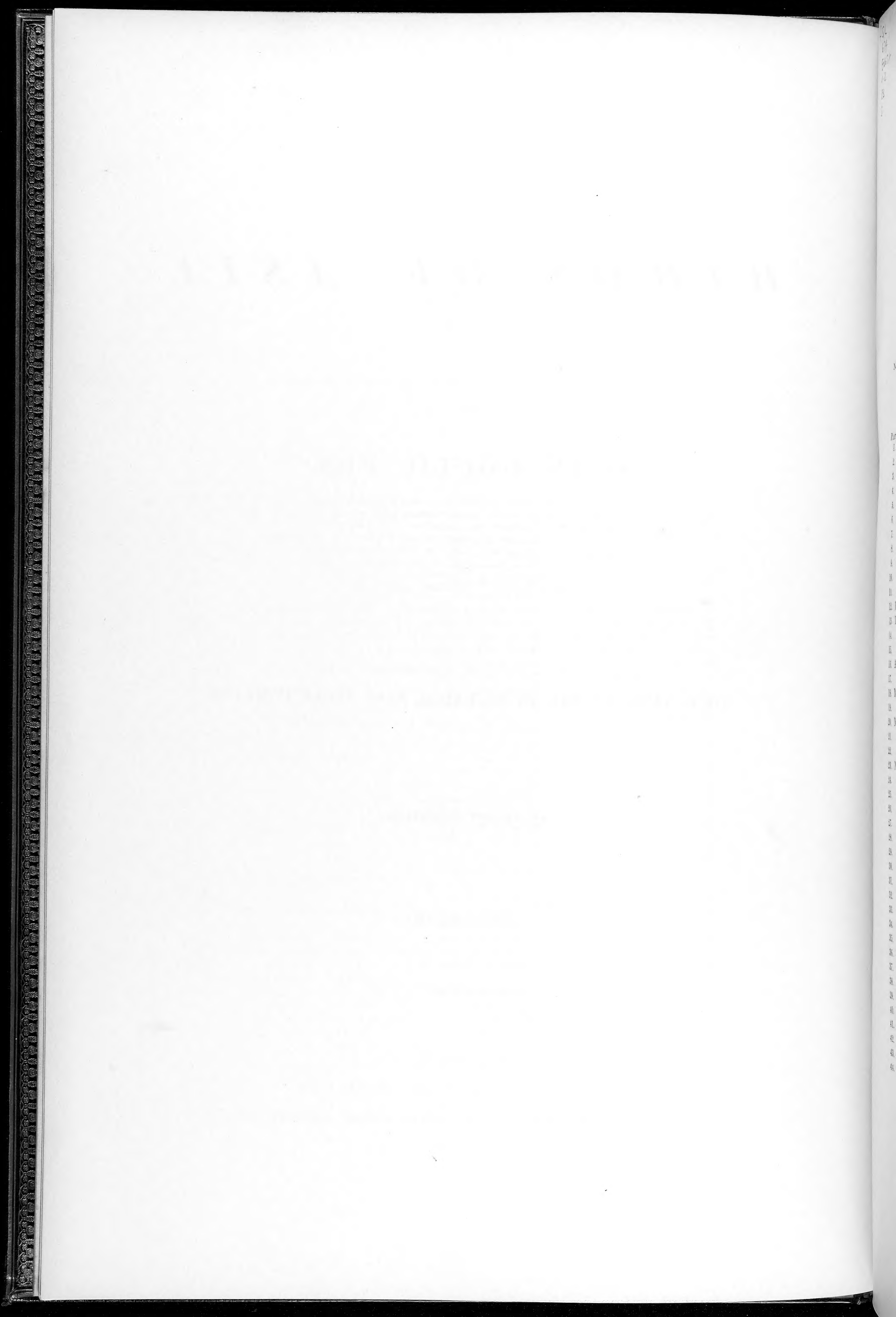
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LIST OF PLATES.

VOLUME II.

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COCTOA VIRIDIS: Hodgs.

J. Gould and H. C. Richter del. et lith.

Hallman and J. S. Walton imp.

COCHOA VIRIDIS, *Hodgs.*

Green Cochoa.

Cochoa viridis, Hodgs. in Journ. Asiat. Soc. Beng., vol. v. p. 359.—Blyth in Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 194.—Gray, Cat. of Spec. and Draw. of Mamm. and Birds presented by B. H. Hodgson, Esq. to Brit. Mus., p. 96.—Gray and Mitch. Gen. of Birds, vol. i. p. 280, *Cochoa*, sp. 1. pl. lxviii.
Prosorinia (Cochoa) viridis, Hodgs., Gray, Zool. Misc., p. 84.

AMONG the numerous ornithological rarities made known to us by the researches of Mr. Hodgson in Nepaul, few are of greater interest than the present species, and its near ally the *C. purpurea*; inasmuch as they constitute an entirely new form to the fauna of Continental India, the situation of which in the natural system we have not as yet sufficient evidence to determine. Mr. Hodgson regards them as belonging to the *Merulinæ*, while Mr. G. R. Gray and Mr. Blyth place them with the *Ampelinæ*: to whichever group they may belong, they will ever be objects of interest from their graceful form and beautiful colouring. Mr. Hodgson states that, "Like most of the Nipalese Thrushes, these birds are common to the three regions of the kingdom. They are shy in their manners, confine themselves exclusively to the woods, live solitarily or in pairs, breed and moult but once a year, and nidificate on trees. I have taken from their stomachs several sorts of stony berries, small univalve mollusca, and several kinds of aquatic insects. These birds are not generally or familiarly known to the Nipalese, but the foresters, whom I have met with, denominate them *Cocho*."

"This species is apt to vary considerably before it has reached maturity, as well as under moult, when the back is sometimes lunated with black, and the soft blue portion of the wings is smeared with brownish yellow."

As Mr. Hodgson has stated to be the case, I find this species to vary much in colour. I have seen a specimen with the under surface green, washed with rich yellowish buff on the centre of the abdomen, and with the lunated marks on the back very conspicuous: this may, as Mr. Hodgson remarks, be indicative of immaturity; and in all probability birds with stains of brown on the secondaries may be still younger examples, if this style of colouring be not that of the adult female. Fine examples of this species have been presented to the collection at the British Museum, and are I believe the originals of Mr. Hodgson's description, which is as follows:—

"Brilliant parrot green, paler and changing into verditer blue on the belly and thighs; crest, cheeks and neck postally, brilliant blue; upper part of the wings and tail the same, but paler and with a grey cast, and both black internally and apertly towards the ends; through the eye to the nostrils black; bar of the same hue across the pale portion of the wings, caused by the long coverts and bastard wing being tipped with that colour; legs fleshy brown; iris brown; sexes alike."

The figures are the size of life.



COCHON PURPUREA: Hodgk.

J. Gould and H.C. Richter del et lith

Hollman del & Walton Imp

COCHOA PURPUREA, *Hodgs.*

Purple Cochoa.

Cochoa purpurea, Hodgs. in Journ. Asiat. Soc. Beng., vol. v. p. 359 ; vol. xii. part 1. p. 450, with a plate.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 195.—Gray, Cat. of Spec. and Draw. of Mamm. and Birds presented by B. H. Hodgson, Esq. to Brit. Mus., p. 96.—Gray and Mitch. Gen. of Birds, vol. i. p. 280, *Cochoa*, sp. 2.

Prosorinia (*Cochoa*) *purpurea*, Hodgs., Gray, Zool. Misc., p. 84, 577.

Prosorinia (*Cochoa*) *Hodgsonii*? Blyth in Journ. Asiat. Soc. Beng., vol. xi. pt. 1. p. 182.

ALTHOUGH this species is still rarely seen in the cabinets of Europe, it appears, from the numerous examples that have come under my notice, to be much more common than the *Cochoa viridis*; like that species, it was first discovered by Mr. Hodgson in Nepaul; several examples were also contained in the collections made by Mr. Grace and Captain Boys; I have seen others from Bhotan and Sikim, and it is said to be common at Darjeeling; whereby we learn that it enjoys a tolerably wide range over the regions of Upper India.

The *Cochoa purpurea* is very nearly allied to, but is readily distinguished from, the *C. viridis* by the general hue of its plumage, which has obtained for it the specific appellation of *purpurea*; its habits, actions, places of resort, food, and mode of nidification, are so similar to those of the preceding species, that an account of the one is equally descriptive of the other.

The sexes of the *C. viridis* are stated by Mr. Hodgson to be alike, while in the present species a marked difference is observable, the female being brown where the male is purple.

“Male dark purple; cheeks black; crest, tail, and upper apert portion of the wings, soft grey-blue more or less purpurascens; lower part of the wings and tip of tail black, and both black internally; a white speculum on the wing, just below the false wing; bill and legs black; iris brown.

“Female brown where the male is purple; and the upper part of the wings also brown.

“Young rufous below with black bars; brown above with rufescent white drops; head blue as in maturity, but barred.”

The Plate represents the two sexes of the natural size.





PERICROCOTUS GRISEIGULARIS, *Gould.*

PERICROCOTUS GRISEOGULARIS, *Gould.*

Grey-throated Pericrocotus.

Pericrocotus griseogularis, Gould in Proc. of Zool. Soc. 1862, p. 282.

— *griseigularis*, Swinh. in Ibis, 1863, p. 263.

Hee-ah (Little Gem), aborigines of Formosa.

THE presence of numerous species of this highly interesting group of birds, all of which are confined to the warmer parts of Asia and the Indian Islands, must constitute a very conspicuous feature in the ornithology of those countries. Most of them are clothed in surpassingly brilliant colours, scarlet and yellow relieved by black of the deepest hue. It has not been my good fortune to see any of these glorious birds in a state of nature; had such an opportunity been afforded me, I might have been able to give some account of their habits and economy. That they are chiefly insectivorous, and that they seek the principal part of their food among the leafy branches of the trees, we learn from the notes on this species published by Mr. Swinhoe in the 'Ibis,' and which I take the liberty of transcribing:—

“In the hilly country of N.W. Formosa the *Hee-ah* is an abundant species, and found all the year through. In the winter it associates in large flocks, many of these consisting almost entirely of males, and ranges about from wood to wood and tree to tree in the lower country. The females generally prefer remaining in the denser shelter of the mountain jungle, and do not evince such roving spirits as their lords; hence the small number of this sex that I was enabled to procure as compared with males. When on the wing, and in fact wherever they are, the *Pericrocoti* soon make their presence known by their peculiar trilling note, which has some resemblance to that of a Canary, but yet differs from that of any bird I know. All the species that I have met with in a wild state have the same style of note, though disagreeing in many minor respects, and by practice can easily be distinguished. On a bright sunny day, to witness a party of these birds fly across a wooded glen is a magnificent sight, the brilliancy of their tints contrasting well with the sombre hue of the surrounding foliage. But it is a still more beautiful sight to watch a group of these pretty creatures examining an evergreen tree for insects. They frisk and flutter about the leaves, throwing themselves into all sorts of positions, and assuming the most difficult attitudes, as if delighting, in the ordinary business of feeding, to show to the greatest advantage those charms with which nature has so amply endowed them. In summer they retire into the depths of the highest forests, whither it was impossible for me to follow them.

“The nearest ally to this species is the *Pericrocotus solaris* of Blyth, from Nepaul and Bootan. I have compared our bird with a skin of that species in my possession. The *P. solaris* is much browner on the upper parts, and has the flammeous tints much less bright; but the chief distinctions are its bright orange throat and its orange thighs, which are differently coloured in the present species. The two birds, however, run close, and, with numerous other birds, as well as mammals, prove the affinity that the Formosan fauna bears to the Himalayan, rather than to that of the lower mountains of the Chinese coast.”

The male has the forehead, crown of the head, back of the neck, back, shoulders, and two central tail-feathers sooty black; wings black, with an oblique bar of scarlet across the primaries and secondaries, near their bases; throat and ear-coverts light grey; chest, abdomen, flanks, under tail-coverts, and rump rich scarlet; tibial feathers black externally, ochreous internally; lateral tail-feathers black at their bases, and scarlet for the remainder of their length; thighs blackish brown; irides hazel; bill and legs black.

“In the adult males,” says Mr. Swinhoe, “the throat is quite grey; but in the majority of the skins in my possession it is whitish, with an indication of yellow. I have one male in the transition plumage, where the yellow and greenish garb of the female is brightening into the more highly tinted dress of the male. This gives us the plumage of the young bird, which is similar to that of the female, but more dully coloured, and at a younger stage probably mottled. This state teaches us that the yellow of the tail is the first to undergo a change, being here almost entirely red.”

The female has the throat light grey, as in the male; crown, ear-coverts, back, and shoulders deep leaden grey; rump sulphur-yellow; chest, abdomen, under tail-coverts, the oblique band across the wing, and the tips of the outer tail-feathers rich Indian yellow; tibial feathers grey externally, yellow internally; bill and legs black.

The figures are of the natural size. The plant is the *Calliandra hæmatocephala*.





PERICOCOTIS CANTONENSIS. *Swinh.*

PERICROCOTUS CANTONENSIS, Swinh.

Canton Pericrocotus.

Pericrocotus cantonensis, Swinhoe, Ibis, 1861, p. 42.—Id. P. Z. S., 1863, p. 284.—Id. P. Z. S., 1871, p. 378.
——— *sordidus*, Swinhoe, P. Z. S., 1863, p. 284 (*juv.*).

OF the well-defined groups of *Pericrocoti* or Minivets there are two very distinct sections, some species being, as in the present instance, of sober hue, whilst the others are unequalled in the brilliancy of their flame-coloured plumage. The birds must play an important part in nature, in keeping down insects and their larvæ.

Of *Pericrocotus cantonensis* (of which the nearest ally is *P. cinereus*) Mr. Swinhoe gives the following account in his first list of the birds of China (P. Z. S. 1863):—"This species, forming so happy a link between the grey and some of the crocus-tinted forms of this group, I have as yet only seen from Canton, where it was pretty common. The tendency of the female to develop the yellow tints is in this much more strongly shown than in *P. cinereus*; so much so that Dr. Sclater declined to accept my identification of the sexes. But apart from any special examination of the sexual organs, the skins carry in their plumage their sexual stamp; for, analogous to what obtains in the foregoing species, the male of this has a white forehead and a dark head. I have no young specimen; but, judging from the last, I should say that the young would be as strongly tinged with yellow as the female." On the same occasion Mr. Swinhoe described a second species as *P. sordidus*, which he has more recently (P. Z. S. 1871, p. 378) determined to be the young of *P. cantonensis*. He remarks:—"All these species have very similar call-notes, and feed chiefly on tree-bugs (*Cimicidæ*) and their eggs, in search of which they creep and hang about among the leaves and branches of large trees, ranging the country in flocks."

I am indebted to Mr. Swinhoe for the following note on the species:—"On the 20th of May, 1869, during our expedition up the river Yangtze, I took a ramble behind the great temple Ta-foo-sze, where before the large gilt idol boatmen offer thanksgiving for safe voyages before finishing their cruise at the city of Chungkingfoo (Szechuen), which is within sight. I was walking about a country-gentleman's garden, followed by his whole family, to watch the curious monster, whose like they had never seen before, when I noticed a pair of this small grey Minivet flying backwards and forwards anxiously, and uttering twittering notes as if in great distress. I guessed the cause and peered about for the nest. A pear-tree had its top snapped away, and on the stump was a knot looking like an accumulation of moss and lichens; and this turned out to be the pretty Chaffinch-like nest of the pair. A lout of a lad climbed up and threw the nest down. It was not quite finished; but there was enough of it to make a nice picture, and I was therefore glad to place it in your hands. I was cruel enough to secure the pretty pair who owned the nest."

The following are the descriptions given by Mr. Swinhoe of the male and female.

Adult male.—Bill and legs black; irides deep brown; forehead, throat, sides of nape and vent white; the rest of the underparts dingy; head, back, and scapulars deep brown, with a wash of grey, blacker on the former; rump and upper tail-coverts light yellowish brown; wings and tail rich hair-brown, the former edged paler, the latter with the stems brownish white, and more or less white on all but the two central rectrices; white of under wing and wing-bone with a wash of pale saffron, the yellow being rather bright on some of the axillaries; wing-spot dingy yellow.

Adult female.—Rump more of a colour with the back than in the male; upper parts lighter and browner; wing-spot bright yellow; quills edged with yellow; the light part of the rectrices rather bright yellow; axillaries and wing-bar fine primrose yellow; forehead narrow, dingy white; in other respects like the male.

Length $7\frac{2}{3}$, wing $3\frac{1}{2}$, expanse $9\frac{2}{3}$, tail $3\frac{2}{3}$.

P. sordidus, which Mr. Swinhoe now identifies as the young bird, was described originally by him as follows:—

Upper parts greyish brown, paler on the forehead, and darker blue-grey on the head and hind neck; wings and tail hair-brown; greater wing-coverts tipped with white, but no wing-spot outwardly visible; two middle rectrices unicolorous, the rest more or less white; the throat and vent white, the former tinged with brown; a black spot in front of the eye; under plumage greyish brown; a dingy white bar runs across the under wing, with a faint tinge of primrose yellow.

Length $7\frac{1}{2}$ inches, wing $3\frac{1}{2}$, tail $3\frac{2}{10}$.

The Plate represents both sexes of the bird, with the nest, all of the natural size.





PERICROCTUS SOLARIS: *Blyth.*

PERICROCOTUS SOLARIS, *Blyth*.

Yellow-throated Pericrocotus.

Pericrocotus solaris, Blyth, Journ. Asiat. Soc. Beng., vol. xv. p. 310.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 193.—Gray and Mitch. Gen. of Birds, vol. iii. Appendix, p. 13 (App. to p. 282).

THIS species is about the size of, or may perhaps be a trifle smaller than, the *P. brevirostris*, but has a shorter and more depressed bill than that species; it also differs in the red portion of the plumage being of an orange rather than a scarlet hue; in the crown of the head and back being of a leaden instead of a deep black; and in having a much shorter tail: the greatest difference, however, between the two species consists in the throat of the *P. brevirostris* being black, while in the present bird it is yellow, a circumstance which induced Mr. Blyth to append the appellation of *flavigularis* to some specimens named by him prior to their being sent to Europe: another difference consists in the greater development of the feathers of the crown, which, being also slightly darker in colour than the remainder of the upper surface, assume the appearance of a hood. The females of the two species assimilate in colour much more nearly than the males: the female of *P. solaris*, from which the figure in the accompanying Plate was taken, accords very closely with Mr. Blyth's original description, except that the sides of the throat, which he states to be whitish, are nearly of the same yellow tint as the other parts of the under surface.

Like the other species of the genus, this bird feeds upon insects, which it captures both on the wing and among the branches.

The greater portion of the specimens which have been sent to Europe were procured in the provinces of Sikim and Bhotan in Upper India: Darjeeling is the locality attached to most of those that have come under my notice.

The male has the head, the back, and the wing-coverts leaden black, deepening on the head into nearly pure black; the bases of the secondaries, the bases of all but the first three primaries, the rump, the upper tail-coverts, the apical half of the two outer tail-feathers, two-thirds of the outer web and the apical third of the inner web of the next tail-feather on each side, the apical third of the outer web of the fourth tail-feather on each side, the under surface of the shoulder and all the under surface of the body, rich orange-red; the remainder of the wings and tail dull brownish black; the chin whitish; the throat orange-yellow; and the bill and feet black.

The female has the forehead and all the parts which are red in the male of a pale yellow, except the rump, which is wax-yellow; head and back olive-green.

The figures represent the two sexes the size of life, on the branch of *Æschynanthus ramosissimus*.





PERICROCTUS ERYTHROPYLUS.

PERICROCOTUS ERYTHROPYGIUS.

Cawnpore Pericrocotus.

Turdus speciosus, var. B. Lath. Gen. Hist., vol. v. p. 97?

Cawnpore Flycatcher, Lath. Gen. Hist., vol. vi. p. 176. pl. xcviii*.

Muscicapa erythropygia, Jerd. Madras Journ. of Lit. and Sci., vol. xi. p. 17.

Pericrocotus erythropygus, Blyth, Journ. Asiat. Soc. Beng., vol. xv. p. 310.—Jard. Contrib. Orn., 1848, pl. 1.—
Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 193.—Gray and Mitch. Gen. of Birds, vol. i.
p. 282, *Pericrocotus*, sp. 10.

For the original description of this bird we must refer to the "General History" of Latham, where it is described and figured under the name of Cawnpore Flycatcher. The merit of assigning to it a distinctive appellation is due to Mr. T. C. Jerdon of Madras, in whose paper on the "Birds of the Peninsula of India" it is characterized as *Muscicapa erythropygia*. The descriptions and figure above referred to were the only evidence on record of the existence of the species until the year 1847, when several specimens were brought to this country in the fine collection of Indian Birds formed by Captain W. J. Boys of the Madras Light Cavalry, in the Upper Gangetic provinces of India; which specimens now form part of the collection of Dr. T. B. Wilson, at Philadelphia, that of H. E. Strickland, Esq., and of my own.

It is in every respect a true *Pericrocotus*, but differs from the other members of the genus in its colouring; a difference however which can only be regarded as specific, since in form it is precisely similar.

Latham states that it is found at Cawnpore in July; Mr. Jerdon met with it once only, "in the low and thick jungle on the top of the ghauts near Ajunteh;" and Captain Boys procured examples in the Nerbudda Valley below Jaum Ghat and among the hills on the table-land near Mhow, also at Suckteys-ghur on the 4th of June. It is very sprightly in its manners, frequents bushes and copse wood, utters a little *pink-pink* when taking flight and occasionally when hopping among the trees, and is generally seen in small flocks of three or four pairs. Mr. Blyth gives Hindostan as its habitat, but adds that it does not frequent Lower Bengal.

The male has the whole of the head, throat, back, wing and upper tail-coverts, glossy blue-black; under surface and the tips of the lateral tail-feathers white; band crossing the lower part of the back and a large spot on the breast pale vermillion; the coverts of the secondaries and the outer portion of the tertiaries white, forming a longitudinal mark down the wing; primaries and secondaries black, becoming paler at the tip, the fifth and sixth primaries and the secondaries largely marked with white at the base; bill and legs black; irides light brown.

The female has the throat and all the under parts white; upper surface brown where the male is black; tail as in the male, but brown instead of black; a band of scarlet across the rump, but not so bright as in the other sex.

The Plate represents two males and a female of the natural size, on the branch of *Cyrtotropis carnea*.





PETROCOPTUS SPECIOSUS.

PERICROCOTUS SPECIOSUS.

Great Pericrocotus.

Turdus speciosus, Lath. Ind. Orn., vol. i. p. 363.

Pericrocotus speciosus, Strickl., Gray and Mitch. Gen. of Birds, vol. i. p. 282, *Pericrocotus*, sp. 3.

Muscipeta princeps, Vig. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part i. p. 22.—Gould, Cent. of Birds, pl. vii.

Phœnicornis princeps, Gould, Cent. of Birds, text to pl. vii.—M'Clell. in Proc. of Zool. Soc., part vii. p. 156.—Jerd. Madr. Journ. Lit. and Sci., vol. x. p. 243.

Black and Scarlet Thrush, Lath. Gen. Syn. Supp., p. 146.—Ib. Gen. Hist., vol. v. p. 96.—Shaw, Gen. Zool., vol. x. p. 273.

Shah Soki-kapir, Hindoos, Dr. F. B. Hamilton.

Sahelee, in the Himalayas, Dr. Royle.

THE physical characters of the great country of India are favourable to the existence of the most varied forms of animal life; between its lofty alpine regions and the hot plains below, every kind of country supervenes; consequently in no part of the world can ornithology be more effectively studied, or is the Class AVES more completely represented. The snow-capped mountains, the sunny sides of the great mountain ranges, the forests clothing the lower hills, and the plains are all tenanted by peculiar forms: in the bleak and lofty regions birds of sombre hue occur; those of the hotter and temperate districts, on the other hand, are distinguished by their gayer colouring; and it is there that the bird here represented and numerous other nearly allied species are found, the whole forming one of the best-defined groups in ornithology; when seen in their native woods, the contrasted hues of their fiery-red plumage and the green foliage with which they are surrounded must be marvellously striking.

If not the most richly coloured, the present bird is the largest and finest member of the genus, as well as one of the most beautiful of Indian birds. The male was figured in my "Century" under the name of *Muscipeta princeps*, but most modern authors considering it to be identical with the bird to which Latham gave the name of *speciosus*, I have deferred to their opinion, and adopted that appellation. The parts of the country it inhabits and the extent of its range have not yet been very clearly defined. Independently of the southern slopes of the Himalayas, Mr. Blyth states that it sometimes occurs in the vicinity of Calcutta, and also gives Sylhet, Arakan, Tenasserim, and the Malayan Peninsula as other countries inhabited by it; but I am inclined to believe that it is not this, but a nearly allied species which is found in those countries. I know it is extremely probable that its range extends southwards from the Himalayas throughout the peninsula of India, but I believe that it becomes more rare as we recede from the mountain ranges.

Mr. Jerdon says,—“I shot one specimen of this splendid bird in a dense and lofty jungle in Goomsoor, hopping about the upper branches of high trees, and only once again observed it. At this time, which was just before the commencement of the hot season, and when insects were least abundant, it descended to the ground to pick up an insect, and returned immediately. This habit I, on several occasions about the same time, saw resorted to by other birds, from whose usual manners it was equally foreign, viz. true Flycatchers (*M. Banyumas* and *M. melanops*): on the same tree was a grey and yellow bird of the same size, which, judging from analogy, was the female. In the stomach of the one I killed were the remains of several insects, chiefly Coleopterous.”

Lieut. Tickell states that it is “sometimes found solitary, at others flying in small parties;” and Dr. F. B. Hamilton informs us that it “cannot be tamed, and when taken always languishes and dies.”

The late Captain Boys obtained specimens at Bumourie, Feb. 12, 1843, and noticed that the eye is dark brown; the bill and legs black; and the food, birds and insects.

The late Hon. F. J. Shore mentions that he “found it in warm places all over the hills in the Doon;” and that on the 7th of July, 1828, he “saw a large flock and killed several individuals of each sex at Pāoree;” he further states, that “during the first year of their existence their colours are not so bright, especially the yellow of the female, which is then a light dirty greyish-yellow; the greenish-yellow of the lower part of her back also does not extend so high up.”

The male has the entire head and neck, back, wings, two central tail-feathers, and the basal portion of the lateral ones deep glossy-black; all the under surface of the body, under surface of the shoulders, a large patch in the centre of the wing, an oblong mark near the tip of the external web of four of the secondaries, the lower part of the back, rump, upper tail-coverts, and the apical three-fourths of the lateral tail-feathers, of the very finest scarlet; bill and feet black; irides blackish-brown.

The female has the forehead, face, wing-marks, under surface of the body and shoulders, and the extremities of the lateral tail-feathers, fine rich yellow; occiput, back of the neck and scapularies grey; wings black, the greater coverts margined with olive; tail black; rump and upper tail-coverts wax-yellow; bill and feet black; irides blackish-brown.

The Plate represents both sexes of the size of life.





PERICROCTUS FLAMMEUS.

PERICROCOTUS FLAMMEUS.

Orange Pericrocotus.

- Muscicapa flammea*, Forst. Zool. Ind., p. 25. pl. 15.—Gmel. Edit. Linn. Syst. Nat., tom. i. p. 942.—Lath. Ind. Orn., vol. ii. p. 474.—Penn. Ind. Zool., p. 43. pl. ix.—Temm. Pl. Col. 263. figs. 1, 2.—Vieill. 2nde édit. du Nouv. Dict. d'Hist. Nat., tom. xxi. p. 483.—Ib. Ency. Méth. Orn., part ii. p. 817. pl. 193. fig. 1.
- *subflava*, Vieill. 2nde édit. du Nouv. Dict. d'Hist. Nat., tom. xxi. p. 483.—Ib. Ency. Méth. Orn., part ii. p. 817?
- Phœnicornis flammeus*, Swains. Zool. Ill. 2nd ser. pl. 52.—Jerd. Ill. Ind. Orn., pl. xi.—Ib. Madr. Journ. of Lit. and Sci., vol. x. p. 244.
- *elegans*, M'Clell. in Proc. of Zool. Soc., part vii. p. 156, male.
- Flammeus Flycatcher*, Lath. Gen. Syn., vol. iii. p. 338; and Supp., p. 171.—Ib. Gen. Hist., vol. vi. p. 173.—Shaw, Gen. Zool., vol. x. p. 372.
- La Mésange de la côte de Malabar*, Sonn. Voy. aux Ind. Orient, &c., tom. ii. p. 204. pl. 114. fig. 1.
- Pericrocotus flammeus*, Gray and Mitch. Gen. of Birds, vol. i. p. 282, *Pericrocotus*, sp. 2.—Blyth, Journ. Asiat. Soc. Beng., vol. xv. p. 309.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 192.—Bonap. Consp. Gen. Av., p. 357, *Pericrocotus*, sp. 10.—Horsf. Cat. of Birds in Mus. East Ind. Comp., vol. i. p. 142.—Layard in Ann. and Mag. Nat. Hist., 2nd ser. vol. xiii. p. 127.
- Phari Bulal Chusm* of the Hindoos, Jerdon.

In all probability the present is the oldest known species of this peculiar group of birds: the foregoing list of synonyms will have prepared the reader for hearing that such is the case, as well as for learning that it is one of the commonest species in our museums; both of which are doubtless due to the circumstance of its being a native of that part of India with which we have been longest and best acquainted, namely, Madras, the southern portion of the country generally, and the Island of Ceylon. In point of size it is much smaller than *P. speciosus*; in its colouring also it is less brilliant than that species: indeed its hue is not so bright as that of any of its allies, the prevailing tint being orange-red instead of fiery scarlet. I possess two well-marked varieties of this bird: I say varieties, because I cannot consider the difference they exhibit of sufficient importance to be regarded as specific. The variation alluded to, consists in the specimens from the western part of the Indian Peninsula having longer and more hooked bills than those collected in the neighbourhood of Madras and in the Island of Ceylon.

The usual diversity of colouring is observable in the sexes, the female being yellow in those parts of her plumage which are red in the male.

"This handsome bird," says Mr. Jerdon, "is a denizen of all the large forests of Southern India. I have seen it in Travancore, Malabar, the Whynaad, and the forest skirting the Neilgherries on their eastern face, but not in the Carnatic or Deccan, there being no forests in those districts, except here and there on the slopes, and at the base of the eastern ghauts; and in the places where I have traversed those hills, I have looked in vain for it. Towards the north of the peninsula, in the jungles of Goomsoor, its place is occupied by *P. speciosus* and *P. brevirostris* of Vigors, which two species appear to extend through Central India to the Himalayas. The *P. flammeus*, though often to be seen in the more open and cleared spaces of the jungles, is never, that I have observed, met with away from the woods. It ascends the sides of mountain ranges to a considerable height, and, I fancied, was more numerous in the elevated region of Whynaad than in most other localities. I saw it, though rarely, in woods on the summit of the Neilgherries, but only on their northern face. It is a tolerably common and abundant species in its appropriate haunts, and, from its bright and showy colours, attracts the notice of most travellers through the lofty forests of Western India. It keeps chiefly to the tops of high trees, where it may be seen usually in small flocks, frisking about, picking an insect off a branch or leaf, or occasionally catching one in the air. The males keep up a continual whistling call. Its food seems to consist chiefly of coleopterous insects."

Mr. Layard informs us that the *Pericrocotus flammeus* "is common in Ceylon, inhabiting high jungle. It does not, however, extend further into the northern province than Vavoniavlancolom, where it is entirely replaced by *Pericrocotus peregrinus*, which is, however, mingled with it in all localities. In habits the two species are similar, hunting about trees for small insects and larvæ, but never descending to bushes. It always appears in flocks, and when one bird flies off to another tree, the whole party follow in succession."

The male has the entire head and neck, back, wings, two central tail-feathers, and the basal portion of the lateral ones, deep glossy black; all the under surface of the body, under surface of the shoulders, a large patch in the centre of the wing, an oblong mark near the tip of the external web of four of the secondaries, the lower part of the back, rump and upper tail-coverts, and apical three-fourths of the lateral tail-feathers, orange-scarlet; bill and feet black; irides dark brown.

The female has the forehead, face, wing-marks, under surface of the body and shoulders, and the extremities of the lateral tail-feathers, fine rich yellow; occiput, back of the neck, and upper surface dark grey; rump and upper tail-coverts wax-yellow; bill and feet black; irides blackish-brown.

The Plate represents both sexes of the natural size. The plant is a species of *Uvularia*.





PERIPROCTUS PERIBRINTIS

J. Gould and W. Fisher, del. & lith.

Hallman del. & W. Steen. imp.

PERICROCOTUS PEREGRINUS.

Little Pericrocotus.

- Parus peregrinus*, Linn. Syst. Nat., tom. i. p. 342.—Ib. Gmel. Edit., tom. i. p. 1010.—Sparr. Mus. Carls., tom. ii. pls. 48, 49.—Lath. Ind. Orn., vol. ii. p. 564.
- Motacilla cinnamomea*, Linn. Syst. Nat., tom. i. p. 335.—Ib. Gmel. Edit., tom. i. p. 985.
- Parus coccineus*, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 1015.
- *malabaricus*, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 1012.—Lath. Ind. Orn., vol. ii. p. 564.
- *Indicus*, Sparr. Mus. Carls., pl. 50.
- L'Oranor*, LeVaill. Ois. d'Afrique, tom. iv. p. 13.
- Le Gobe mouches Oranor*, LeVaill. Ois. d'Afrique, tom. iv. pl. 155. figs. 1, 2.
- Crimson-rumped Flycatcher*, Lath. Gen. Hist., vol. vi. p. 174.
- Malabar Titmouse*, Lath. Gen. Syn., vol. iv. p. 555.—Shaw, Gen. Zool., vol. x. p. 49.
- Crimson-rumped Titmouse*, Lath. Gen. Syn., vol. iv. p. 539.—Ib. Supp., vol. ii. p. 255.
- Muscicapa flammea*, Lath. Ind. Orn., vol. ii. p. 474, var. β .
- Cinnamon Warbler*, Lath. Gen. Syn., vol. iv. p. 447.—Shaw, Gen. Zool., vol. x. p. 410.
- Cinnamon Flycatcher*, Lath. Gen. Hist., vol. vi. p. 175.
- Muscipeta peregrina*, Gould, Cent. of Birds, pl. ix.—Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part ii. p. 85.
- Phœnicornis peregrina*, Gould, Cent. of Birds, text to pl. ix.—Jerd. Madr. Journ. of Lit. and Sci., vol. x. p. 244.
- Muscicapa peregrinus*, Tick. Journ. Asiat. Soc. Beng., vol. ii. p. 574.
- Pericrocotus peregrinus*, Gray and Mitch. Gen. of Birds, vol. i. p. 282, *Pericrocotus*, sp. 7.—Blyth, Journ. Asiat. Soc. Beng., vol. xv. p. 310.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 193.—Bonap. Consp. Gen. Av. p. 356, *Pericrocotus*, sp. 1.—Horsf. Cat. of Birds in Mus. East Ind. Comp., vol. i. p. 140.—Layard in Ann. and Mag. Nat. Hist., 2nd ser., vol. xiii. p. 127.
- Bulal Chusm* of the Hindoos, Jerdon.
- Sahelee*, in the Himalayas, Royle.
- Sayelee* of the Hindoos, Jerdon.
- Little Shah Soki-kapir*, Dr. F. B. Hamilton.

THE *Pericrocotus peregrinus* is the smallest member of the genus yet discovered; at the same time it is more generally dispersed than any other, and enjoys a wider range. It occurs in abundance in every part of the peninsula of India, from the base of the Himalayas to its most southern limits. It also inhabits Ceylon, where, according to Mr. Layard, it unites with *P. flammeus*, both species hunting in company for insects and their larvæ. Mr. Blyth states that it is found in Arakan, and, if I mistake not, it extends its range to Java and Borneo, for I have received specimens from those countries which are so similar in every respect, that, before separating them, I should wish to see and compare additional examples.

Most of my specimens from the northern parts of India are lighter in colour than those from Madras and Ceylon, the colouring of their upper surface being a light grey, while a corresponding paleness occurs in the scarlet of the under surface; in size and relative admeasurements, however, I find little or no difference; I am inclined, therefore, to consider them as mere varieties.

While the sexes present the same distinctive characters as occur in the larger members of the genus, the plumage of the female is much more suffused with grey above, and is of a greyish-white stained with yellow beneath; and the lower part of her back and upper tail-coverts are red.

"This pretty and lively bird," says Mr. Jerdon, "is more numerous and extensively spread than any of its congeners, and is to be found in most woody situations, even in the dry Carnatic, in jungle, and in thick hedges and avenues occasionally, and in some of the larger topes in the Deccan. It is, however, most abundant on the west coast. It is a restless and active little creature, ever engaged in diligently examining the extreme branches of trees, gleaming among the foliage and hanging from the slender twigs like a Titmouse. It feeds upon various larvæ (which are its favourite food) and small insects."

Lieut. Tickell informs us, that "the males unite in flocks apart from the females at the close of the cold season."

Captain Boys states, that it is "found in small flocks of ten or twenty frequenting the tops of the lofty trees; restless in their motions, and catching flies and other insects on the wing; while flying emits a weak piping note, somewhat like the word *Week*."

"The tongue is large, cartilaginous and horny towards its bifurcated apex. The roof of the mouth is yellowish-grey; the bill and feet black, and the eye dark brown."

The Hon. F. J. Shore obtained specimens at Kheree on the 10th of Dec. 1828, and at Futtehgurh on the 17th of June, 1834.

The male has the lores, cheeks and throat jet-black; head, back of the neck and upper part of the back very dark grey; wings black, with a large patch of scarlet at the base of the innermost primaries and secondaries; tail black, the three outer feathers on each side largely tipped with scarlet, and the next on each side with an oblique stripe of the same hue along the apical half of the external and a portion of the internal web; breast, all the under surface, lower part of the back and upper tail-coverts deep orange-scarlet; under surface of the shoulder, and the under surface of the scarlet mark on the centre of the wing rich yellow; bill and feet black; irides dark brown.

A specimen from the collection of Dr. John Murray, Civil Surgeon at Agra, differs in having all the colours of a much lighter hue; the mark on the wing yellow, stained with scarlet; and the under surface yellow, washed with scarlet on the breast.

The female has the upper surface light grey; wings dark grey, with lighter edges, and with a patch of yellow in the centre; a patch of orange on the rump, passing into the scarlet of the upper tail-coverts; tail dull black, with the lateral feathers largely tipped with orange, fading into pale yellow at the extremity; all the under surface yellowish-white.

The Plate represents both sexes of the size of life. The plant is the *Beaumontia grandiflora* of Dr. Wallich.





PERIPROTETUS ROSEI.

PERICROCOTUS ROSEUS.

Rosy Pericrocotus.

Muscicapa rosea, Vieill. 2nde édit. du Nouv. Dict. d'Hist. Nat., tom. xxi. p. 486.—Ib. Ency. Méth. Orn., part ii. p. 820.

Phænicornis affinis, M'Clell. in Proc. of Zool. Soc., part vii. p. 157.

Pericrocotus roseus, Gray and Mitch. Gen. of Birds, vol. i. p. 282, *Pericrocotus*, sp. 9.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 193.—Bonap. Consp. Gen. Av., p. 356, *Pericrocotus*, sp. 3.

Nget-meng-tha-mee ('Princess Bird') of the Arakanese, Blyth.

Phænicornis rubricinctus, Blyth (G. R. Gray).

IN size this bird corresponds very closely with *P. flammeus*, but as no other species yet discovered has a similar style of colouring, it will be readily distinguished from all its congeners. It will be seen, that whilst most of the males in the other *Pericrocoti* have the head shining jet-black, that part in the present bird is dull brown; that the throat is of a rosy-white, passing into pure rose-colour on the breast and under surface, and that with these distinctions it retains the red at the base of the primaries and secondaries common to the other species, and also the red on the terminal half of the tail-feathers: the sexes, too, although differing less than usual from each other, are easily distinguishable; for while the same uniform brown pervades the upper surface of both, the female has all the parts yellow which are rosy in the male. The young males assume an intermediate tint, as shown in the accompanying drawing, where adults of both sexes and an immature male are depicted.

In form this species is precisely similar to the other members of the group, and it doubtless as closely assimilates to them in habits and economy. Mr. Blyth states that it is found near Calcutta, and that it inhabits India generally; and, as far as my experience extends, I may confirm his statement as regards the country from the base of the Himalayas throughout the Peninsula. I have never seen it from any other country; Mr. Jerdon states that he had obtained it in Goomsoor, and had seen specimens from Malabar; but I am induced to question its being found in the latter locality.

The late Hon. F. J. Shore, who obtained specimens near Pokree, in Nagpoor, June 2, and at Urkoon, June 19, 1832, states that it is called 'Powe,' and that it builds, among the branches of trees, a nest of moss (*simālā* or *siwālā*), and is only seen during the six summer months.

The male has a line across the forehead at the base of the bill, and cheeks whitish; throat greyish-white, tinged with rosy; head and nape grey; scapularies and back brown, washed with a rosy hue on the rump and upper tail-coverts; wings dark blackish-brown, with a large V-shaped mark of rich deep scarlet at the base of the primaries and secondaries; tail dull black, the three outer feathers on each side largely tipped with scarlet, and the apical half of the next feather on each side of the same hue, the outer webs richer than the inner, and shafts nearly white; breast and under surface rich rosy-red; under surface of the shoulder scarlet; bill and feet black; irides blackish-brown.

The female is similar but paler, and has those parts of the wings and tail which are rosy in the male of a fine yellow; the throat grey; chest and hinder surface very light yellow.

The Plate represents a male, a female, and a young male of the natural size. The plant is the *Menispermum cocculus* of Linnæus.





PERICROCOTUS CINEREUS, Lath.

J. Gould and H.C. Richter del. et lith.

Hallman del. & Walton Inv.

PERICROCOTUS CINEREUS, *Lafr.*

Grey Pericrocotus.

Pericrocotus cinereus, Lafr. Rev. Zool., tom. viii. 1845, p. 94.—Gray and Mitch. Gen. of Birds, vol. iii. App. p. 13, App. to p. 282.

————— *modestus*, Strickl. in Proc. of Zool. Soc., part xiv. p. 102.—Ib. Ann. and Mag. of Nat. Hist., vol. xix. p. 131.

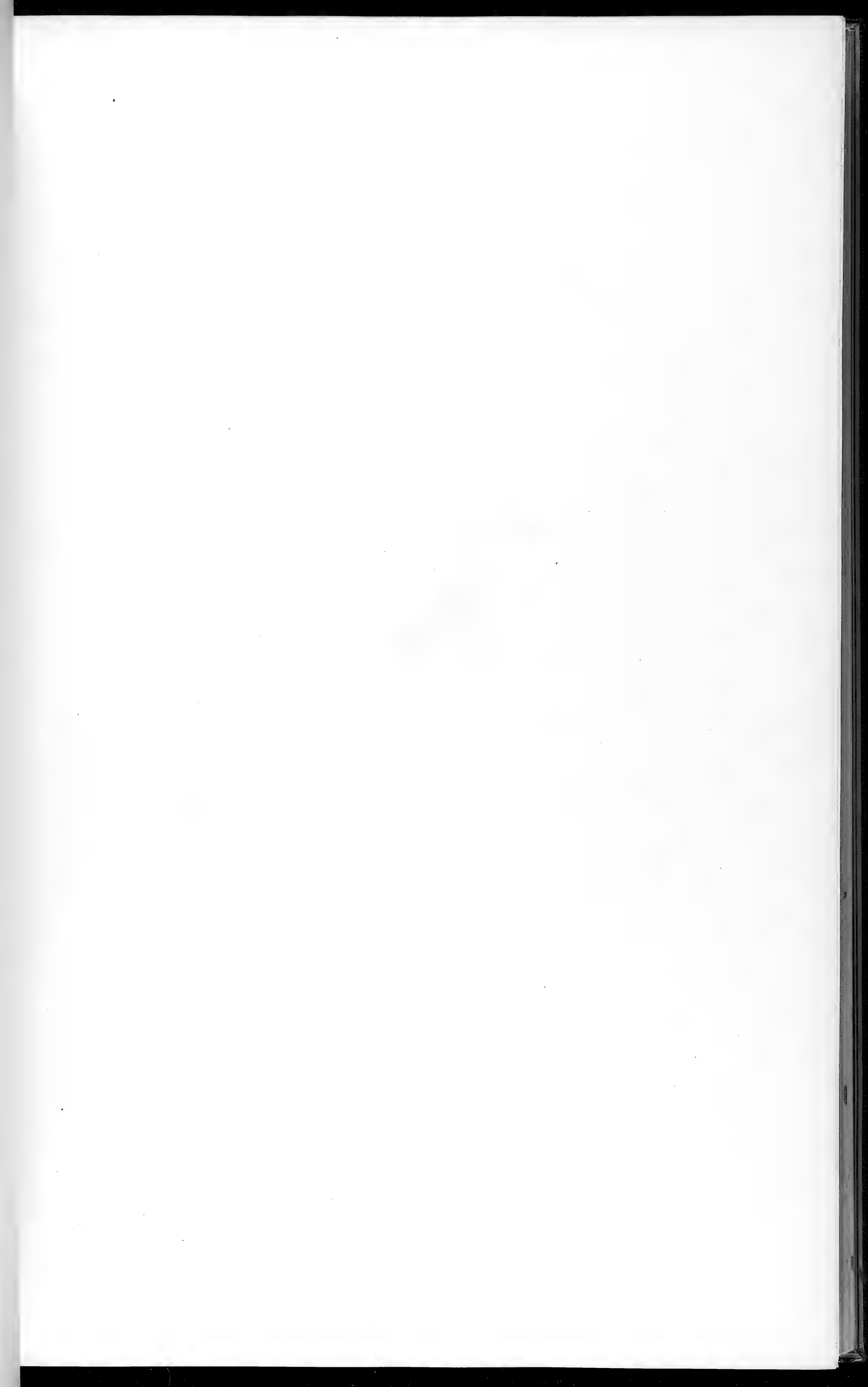
THE Grey Pericrocotus is unquestionably the rarest species of the genus, there being few museums in which an example is to be found. It is a native of Luçon and the Philippine Islands, from the latter of which countries I have received it direct; I also possess a specimen said to have been procured in Malacca, but this is by no means certain. In its structure and in the general disposition of its markings it is in every respect a typical member of the genus, while in the total absence of red or yellow colouring in either sex, it differs very conspicuously from every other that is at present known. I trust it will be found that I am correct in considering it identical with the *P. cinereus* of the Baron de la Fresnaye, and the *P. modestus* of the late Mr. Strickland, the former of which names is the one adopted on the score of priority.

As is the case with the other species of this form, a marked difference occurs in the sexes; the female being destitute of the white forehead and of the jet-black back of the head and nape of the male; the sides of her breast and flanks are also more strongly washed with light grey; but, with the exception of these distinctions, they are very similar.

The male has the forehead and frontal half of the crown, chin, throat, sides of the neck, breast, centre of the abdomen, vent and under tail-coverts white; a narrow line at the base of the upper mandible, lores, hinder half of the crown, occiput and nape jet-black; back and upper surface grey; flanks grey; wings blackish-grey, with a V-shaped mark of white at the base of the primaries and secondaries, not very perceptible above, but broad and well defined on the under surface; tail black, the central feathers edged with grey, and the lateral ones largely tipped with white; bill and feet black; irides dark brown.

The female differs in having the head and upper surface brownish-grey, and the under surface dull white.

The Plate represents the two sexes of the natural size. The plant is the *Rhododendron Keysii*.





HYLOTERPE PHILIPPINENSIS, *Walden.*

W. Hart del et lith.

Waller imp.

HYLOTERPE PHILIPPINENSIS, *Walden*.

Philippine-Islands Thickhead.

Hyloterpe philippinensis, Wald. Ann. & Mag. Nat. Hist. ser. 4, vol. x. p. 252 (1872).—Id. Trans. Zool. Soc. ix. pp. 179, 250, pl. 31. fig. 2 (1875).—Sharpe, Trans. Linn. Soc. ser. 2, Zoology, i. p. 351.—Tweeddale, Proc. Zool. Soc. 1878, p. 109.—Wardlaw Ramsay, Ornith. Works of Marquis of Tweeddale, pp. 234, 344, 568, 656 (1881).

CAPTAIN WARDLAW RAMSAY has been so good as to lend me several birds from the celebrated collection formed by his late uncle the Marquis of Tweeddale; and I have great pleasure in introducing to the notice of my readers the very interesting species here figured. It is principally interesting as being an intrusion of a thoroughly Australian form within the limits of the Indo-Malayan region; for although I follow Lord Tweeddale in keeping the genus *Hyloterpe* distinct from the Australian *Pachycephala*, I must confess that I have very grave doubts as to the probability of this separation being upheld. In the genus *Hyloterpe*, however, the sexes are alike in plumage, whereas in the bulk of the members of the genus *Pachycephala* the males far exceed the females in brilliancy of plumage; in fact, both sexes of *Hyloterpe* are very like the females of some of the *Pachycephala*.

I cannot do better than quote Lord Tweeddale's remarks on the species in his paper on the Birds of the Philippine Archipelago, to which the bird appears to be confined. It was first discovered by Dr. A. B. Meyer in the island of Luzon, and more recently in Dinagat by Mr. Alfred Everett.

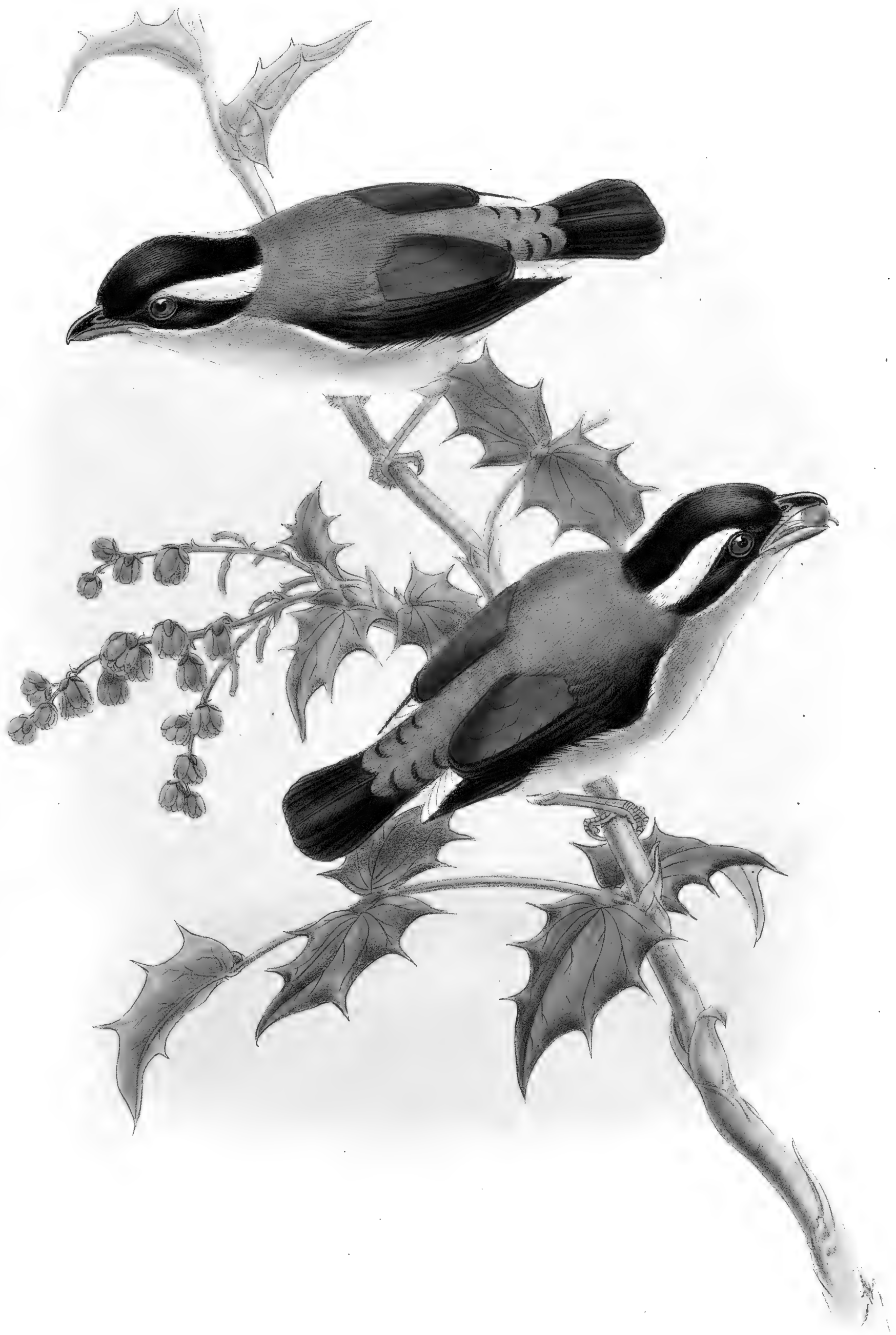
"Dr. Meyer's researches in the Philippines have added an additional member of a genus hitherto not known to be there represented. The small group of Pachycephaline birds to which the title of *Hyloterpe* is restricted is now known to contain six species. They are entitled to subgeneric distinction. The sexes are, I believe, alike; and they possess the further peculiarity that they wear, in adult plumage, a sombre garb recalling the adolescent and the female plumage of the true black-and-yellow *Pachycephalæ*. This Philippine species is a representative form of *H. sulphuriventris*, Walden, ex Celebes. Above, it differs by its plumage being olive-green, and not brown, and underneath by the yellow extending higher and being much brighter. The bill is likewise more powerful. Seen from above, *H. philippinensis* is difficult to distinguish from *H. fulvotincta*, Wallace, ex Flores; while, in the same way, *H. sulphuriventris* closely resembles *H. griseiceps* ex N. Guinea. Seen from below, however, the affinities are reversed, the Flores *Hyloterpe* showing a great resemblance to that of Timor, *H. orpheus* (Jard.), and the Celebean and Philippine species but differing slightly."

The following is a copy of Lord Tweeddale's original description of the male bird sent by Dr. Meyer:—"Feathers of the chin, cheeks, throat, and upper breast silky white, edged more or less with cinereous, a dingy sordid aspect being thus given to those parts; an indistinct obscure zone crossing the breast and bordering the upper breast-plumage, consisting of feathers which are dark ashy at their base, then pure white, tipped with dirty yellow; the remainder of the under plumage, with the flanks and under tail-coverts, sulphur-yellow, each feather, however, being iron-grey at the base and then white; entire head dark smoke-brown, lighter on the ear-coverts; remainder of upper plumage olive-green, rather darker on the outer edges of the quills and on the rectrices; under carpals and axillaries pale lemon-white; tail slightly forked; bill horn-brown. Bill from nostrils 0·32 inch, wing 3·25, tail 3·12, tarsus 0·75."

Mr. Alfred Everett, as before noticed, procured both sexes of this *Hyloterpe* on Dinagat, and states that the iris is dark brown, the bill black, and the legs bluish grey.

My figures are drawn from a pair of skins from Dinagat, for the loan of which I have to thank Captain Wardlaw Ramsay. The sexes are represented as of the size of life.

[R. B. S.]



PTERUTHIUS AERALATUS, *Tickell.*

J. Gould & W. Hart. del. et lith.

Walter imp.

PTERUTHIUS ÆRALATUS, *Tickell.*

Grey-breasted Pteruthius.

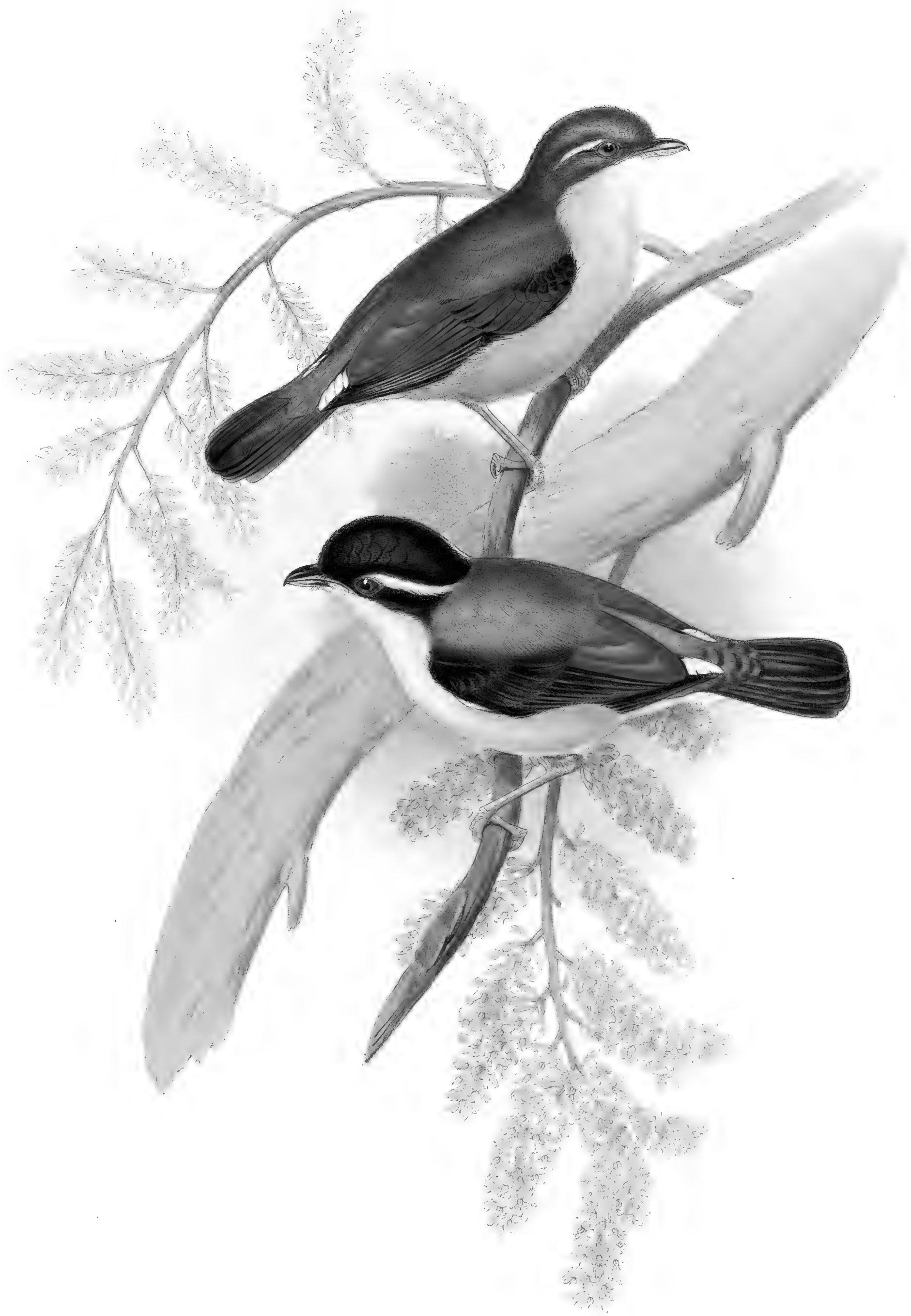
Pteruthius æralatus, Tickell, J. A. S. B. 1855, p. 267.—Blyth, Ibis, 1867, p. 32.—Gray, Hand-l. B. i. p. 314 (1869).—Blyth & Wald., B. Burm. p. 109 (1875).
Allotrius æralatus, Hume, Str. F. 1874, p. 479.

FOUR species of true *Pteruthius* are now known to naturalists; and of these the bird here figured is much the rarest in collections. It is nearly allied to *P. erythropterus*, but is distinguished at once by the yellow bases of the secondary quills, and by the throat and cheeks being grey as well as the breast. In *P. erythropterus* the cheeks and throat are pure white like the rest of the under surface, and the inner secondaries are uniform light chestnut.

The species was first discovered by Colonel Tickell, who met with it in the Tenasserim mountains; and it has also been obtained in Burmah by Lieutenant Wardlaw Ramsay, in the hills of Karen-nee, from 4000 to 5000 ft., as we learn from Lord Walden. A female specimen in Lieutenant Ramsay's collection had the soft parts as follows:—"Iris deep lavender; bill above black, below lavender; legs dull white; claws dark brown." Dr. Anderson obtained two specimens during the Yunnan expedition in the Kakhyen hills.

Adult male.—General colour above grey, with concealed spots of white near the base of the feathers; the upper tail-coverts with a greenish black bar at the tip; head glossy greenish black; from above the eye to the sides of the nape a broad white streak; lores and ear-coverts greyish black; cheeks and throat grey, becoming paler on the breast and sides of the body; centre of abdomen and under tail-coverts white; the sides of the abdomen pale rose-colour; under wing-coverts pure white—except the outermost of the lower series, which are black and form a spot near the edge of the wing; wing-coverts above grey, inclining to greenish black on their outer webs; the greater series black, the outer webs greenish black, as also the quills—which are black, externally glossed with greenish black, and distinctly tipped with white at the extremity of the inner web of the primaries; inner secondaries chestnut, inclining to yellow near their bases, this colour occupying the greater part of the innermost, which are chestnut only on the inner web; on all of these chestnut secondaries there is a narrow tip or external margin of greenish black, the black secondaries (next following) showing more or less chestnut near the base of the outer web; all the quills white for the greater part of the inner web. Total length 6·6 inches, culmen 0·65, wing 3·3, tail 2·65, tarsus 1·1.

The description and figures have been taken from a specimen kindly lent to me by Dr. Anderson; and the birds are represented in the Plate of the natural size.



PTERITUS ERYTHROPTERUS.

Stoddard and H.C. Richter del. A. Wet.

F. B. Rowley, sculp.

PTERUTHIUS ERYTHROPTERUS.

Himalayan Pteruthius.

Lanius erythropterus, Vigors in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part i. p. 22.—Gould, Century of Birds, pl. 11.

Pteruthius erythropterus, Swains. Faun. Bor. Amer. App. p. 491.—Ib. Class. of Birds, vol. ii. p. 249.—Blyth, Journ. Asiat. Soc. Beng. vol. xi. pp. 106 and 183.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 99.—Gray and Mitch. Gen. of Birds, vol. i. p. 270, *Pteruthius*, sp. 1.—Gray, List of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 95.—Bonap. Consp. Gen. Av. p. 362, *Pteruthius*, sp. 1.—Horsf. Cat. of Birds in Mus. East Ind. Comp. vol. i. p. 172.

SINCE the first introduction of this bird into Europe in 1830, so many examples have been transmitted in collections from the Himalayas, that I presume there are few museums of natural history in which one or more are not to be seen. The long interval, however, which has elapsed between our first knowledge of the species and the present time has not, I regret to say, produced any account of its habits and economy, which is the more to be regretted, inasmuch as its structure would lead us to believe that they are somewhat peculiar. That its food is partly insectivorous and partly frugivorous may be fairly inferred from the formation of the bill; in all probability berries and the softer kinds of insects constitute its principal subsistence.

The *Pteruthius erythropterus* appears to enjoy an extensive range over the southern slopes of the great Himalayan range, as it is from thence that I have received numerous examples; and I observe that the Honourable East India Company's Museum contains specimens from Bootan, Kumaon, and Assam.

The male has the head black, with a lengthened patch of white posterior to the eye; back and upper surface grey; wing-coverts, primaries and secondaries black; the primaries tipped with white; tertiaries fine chestnut-red; tail black; all the under surface greyish white with a vinaceous tinge, especially on the flanks and the lower part of the abdomen; under tail-coverts white; upper mandible black; lower mandible leaden grey; legs and feet flesh-colour.

The female has the head dark grey, gradually blending with the olive-brown of the upper surface of the body; lores and ear-coverts brown; all the under surface dull white, with a brownish tinge on the flanks; lesser wing-coverts black, fringed with grey; greater coverts olive-yellow on their outer webs, black on the inner; primaries and secondaries black, margined externally for nearly their entire length with olive-yellow, and the former tipped with white; tertiaries chestnut-red; tail olive-yellow, deepening into black, and the lateral feathers largely tipped with yellow; bill and feet as in the male.

The Plate represents the two sexes of the size of life.





PTEROTHUS RUFIVENTER, Blyth.

Two seen and P. rufiventer of the same

Edinburgh, 1846. 100

PTERUTHIUS RUFIVENTER, *Blyth*.

Rufous-bellied Pteruthius.

Pteruthius rufiventer, Blyth, Journ. Asiat. Soc. Beng. vol. xi. p. 183, and vol. xii. p. 954.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 98.—Gray and Mitch. Gen. of Birds, vol. i. p. 270, *Pteruthius*, sp. 4. pl. lxvi.—Bonap. Consp. Gen. Av. p. 362, *Pteruthius*, sp. 5.—Horsf. Cat. of Birds in Mus. East Ind. Comp. vol. i. p. 173.

MR. BLYTH of Calcutta appears to have been the first to describe and give a name to this fine species of *Pteruthius*: it was afterwards figured in the "Genera of Birds" by Messrs. Gray and Mitchell. It is very rarely to be seen in collections, which circumstance is a sufficient proof that its native habitat has been as yet but little frequented by the collector.

In its larger size, lengthened tail, and in the truncate form of the feathers of that organ, it differs from the other known members of the genus, as it also does in the chestnut colouring of its back, the delicate grey of its breast, and the yellow colour of its flank feathers.

The sexes, although presenting a general resemblance, differ considerably in their colouring, the female having the back green instead of chestnut, and her tail-feathers margined with green. A glance at the accompanying Plate, or a perusal of the following descriptions of the two sexes, will render the difference between them sufficiently apparent. The native habitats of this fine bird are Nepaul and Bootan. The specimens in my own collection and that of the Honourable East India Company have the locality of "Darjiling" written upon their labels.

The male has the head, wings and tail steel black; the secondaries and tail-feathers slightly tipped with dark red; back, scapularies and upper tail-coverts rich deep chestnut-red; throat and breast grey; under surface vinaceous, washed with yellow on the flanks; upper mandible black; lower mandible leaden grey; feet flesh-colour.

The female differs in having the back olive-green instead of chestnut-red, and the tail-feathers margined with olive-green; the under surface is also of a deeper tint than in the male.

The Plate represents the two sexes of the size of life.



ALLOTRIS MELANOTIS.

J. Gould and H. C. Richter, del. et lith.

Hellmuth & Walton, Imp.

ALLOTRIUS MELANOTIS.

Black-eared Allotrius.

Pteruthius melanotis, Blyth, Journ. Asiat. Soc. Beng. vol. xvi. p. 448.—Gray and Mitch. Gen. of Birds, vol. iii. App. p. 13. App. to p. 270.

NUMEROUS as are the collections of birds which have been from time to time forwarded to this country from our Indian possessions, scarcely any of them have contained examples of this species; a circumstance which at once indicates that the bird is an inhabitant of distant and remote countries which have not yet been explored by the collector, and but rarely visited by travellers; accordingly we find that it is in Nepaul, Bootan, and other countries lying still farther to the eastward, that the *Allotrius melanotis* finds a congenial residence.

M. Temminck has characterized and figured in his "Planches Coloriées," under the name of *Allotrius ænobarbus*, a bird very nearly allied to, and which by some writers has been considered identical with, the present species; but upon a comparison of examples of the latter with M. Temminck's Plate, I am induced to believe that the two birds are specifically distinct. The *Allotrius ænobarbus* is stated to be from Java, and not from India, which forms an additional reason for considering them not identical, but representatives of each other in the countries they respectively inhabit.

The Honourable East India Company's Collection contains examples of, I believe, both sexes of this rare bird: if this conjecture be correct, the male has the wing-coverts tipped with white, while those of the female are tipped with reddish buff: these differences will be at once perceived on reference to the accompanying Plate, which represents the birds of the natural size.

The male has the crown of the head, all the upper surface and the basal three-fourths of the two central tail-feathers yellowish olive; lores, orbits, and a crescentic mark behind the ears black; back of the neck grey, separated from the black of the orbits by a streak of light grey; wing-coverts black, largely tipped with white, forming two bands across that portion of the wing; remainder of the wing slaty black, narrowly edged with grey, and the secondaries margined with white at the tip; throat rich orange-brown, gradually blending into the orange-yellow of the under surface; two central tail-feathers tipped with black; outer feather on each side white, the remainder of the tail-feathers black, with a large patch of white on the tip of the inner web of the feather next the outer one, and a smaller spot of white on the same part in the succeeding one; bill dark slate-colour; legs and feet flesh-colour.

In the female the colouring is similar, but is of a much paler hue, and the tips of the wing-coverts are buff instead of white.

The figures are of the size of life.



ALLOPHEUS XANTHOCHLORIS.

Alcock and H. C. Richter del. J. L. S.

Alcock and H. C. Richter del. J. L. S.

ALLOTRIUS XANTHOCHLORIS.

Yellow-green Allotrius.

Pteruthius xanthochloris, Hodgs. in Gray's Cat. of Spec. and Draw. of Mamm. presented to Brit. Mus. by B. H. Hodgson, Esq., App. p. 155.—Blyth, Journ. Asiat. Soc. Beng. vol. xvi. p. 448.—Gray and Mitch. Gen. of Birds, vol. iii. App. p. 13. App. to p. 270.

THIS bird, as well as the *Allotrius melanotis*, is an inhabitant of the little-known countries of Nepaul and Bootan; in the former of which countries the specimens contained in the collection of the Honourable East India Company were obtained by Mr. Hodgson. In Dr. Horsfield's "Catalogue of the Birds in the Company's Museum," this species is regarded as the female of *Allotrius ænobarbus*; but after a careful comparison of the two birds, I am induced to regard them as distinct, and to retain Mr. Hodgson's name of *xanthochloris* for the one to which he assigned it, and which may be distinguished by its larger size, its more lengthened and lax plumage, more ample wings and longer tail, and a more uniform style of colouring.

Nothing whatever is known of the habits and economy of this and the allied species; and as it is much to be regretted that such is the case, I trust that some one or other of the Company's officers who may be favourably situated for investigating them, will give attention to the subject and duly record their observations.

The habitat of this species and of *P. melanotis* would appear to be the region of the Tarai, at the base of the south-eastern Himalayas.

Head grey; chin and breast greyish white; remainder of the plumage, including the tail, yellowish-green; wings dark brown, edged with yellowish green; irides dark brown; bill plumbeous; feet flesh-white.

The figures are of the natural size.

The plant is the *Ixora rosea* of Dr. Wallich.



MUSCIPETA PARADISI.

J. Gould and H.C. Richter, del. et lith.

Hallward & Walton, Imp.

MUSCIPETA PARADISI.

Paradise Flycatcher.

- Muscicapa paradisi*, Linn. Syst. Nat., tom. i. p. 324.—Ib. Gmel. Edit., tom. i. p. 929.—Lath. Ind. Orn., vol. ii. p. 480.
Avis Paradisiaca Orientalis, Seba, i. t. 52. fig. 3.
Pied Bird of Paradise, Edw. Glean., pls. 113, 325.
Paradise Flycatcher, Lath. Gen. Syn., vol. iii. p. 345.—Id. Supp., p. 172.—Shaw, Gen. Zool., vol. x. p. 416.—Lath. Gen. Hist., vol. vi. p. 192.
Muscicapa mutata, Lath., from India.
Muscipeta leucogastra, Swains. Nat. Lib. Flycatchers, p. 205. pl. 24, young.
Muscipeta paradisi, Cuv.—Frankl. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., Part i. p. 116.—Sykes in Ib., Part ii. p. 84.—Bonap. Consp. Gen. Av., p. 325, *Muscipeta*, sp. 1.
Muscipeta Indica, Steph. Cont. of Shaw's Gen. Zool., vol. xiii. p. 111.—Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc., Part ii. p. 84.
Avis Paradisiaca cristata, Seba, i. t. 30. fig. 5.
Upupa paradisea, Linn. Syst. Nat., tom. i. p. 184.
Muscicapa castanea, Temm.
Muscipeta paradisea, Jerd. Ill. Ind. Orn., pl. vii.
Tchitrea paradisi, Gray and Mitch. Gen. of Birds, vol. i. p. 259, *Tchitrea*, sp. 1.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 203.
Shah Bulbul, and *Hosseini Bulbul*, Hindoos. } The White Bird.
Kaddehoora, Cingalese. }
Sultana Bulbul, Hindoos. } The Chestnut Bird.
Ginihoora, Cingalese. }
Tonka Peegeelee-pitta, i. e. Long-tailed Bulbul, Telugu.
Walkordalatee, Tamul.
In Malyalum it is called by a name signifying the King of Heaven.
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WITHOUT particularizing the numerous localities whence specimens of this very elegant and ornamental species of Flycatcher have been brought to Europe, it may be stated to be generally distributed over India, from the warmer regions of the Himalaya to the farthestmost part of the Peninsula, wherever wooded districts suitable to its habits and mode of life occur. It is said to give preference to dense jungles of bamboo, but to be very frequently found in gardens, shrubberies, and other cultivated situations. Mr. Jerdon of Madras, who has given by far the best account of the species, states that "in its habits it is restless and wandering, flitting continually from branch to branch and from tree to tree. It feeds on various insects, which it takes in the air, and occasionally from the branches of the trees. I have generally seen it singly or in pairs. It is said to breed among the bamboos. It has a loud, harsh, grating cry of alarm, but I never heard it utter any other note. When it seizes an insect it makes a loud snap with its mandibles." And Captain Boys states that it flies in long undulating sweeps; and that the length of the tail has procured it the name of the Raquet Bird.

A complete list of the synonyms that have been applied to this species would occupy at least an entire page, as both the generic and specific appellations have been multiplied almost without end. Nor is there less confusion with regard to the sexual differences of plumage to which the species is subject, and which are so great, as to have led to the belief that the bird constituted two, if not three species; the white birds with long flowing tail-feathers being regarded as distinct from those having the upper surface and tail-feathers brown, and the young birds which are always destitute of the lengthened tail-feathers as different from both. After carefully examining the numerous examples I possess in every stage of plumage, studying the changes the allied species apparently undergo, and reading with attention the opinions of every writer on the subject, I believe that the conclusion I have come to is the right one; namely, that fully adult males have the body and tail wholly white, with the exception of the primaries, which are invariably black, margined with white; that the adult female has the middle tail-feathers of the same length as in the male, and the whole of the upper surface, wings and tail rufous, the primaries being merely a shade darker than the other part of the plumage, and the breast-feathers clouded with grey. I have specimens apparently adult with very long tail-feathers, ascertained to be males by actual dissection, which have the upper surface, wings and tail brown like the female, but of a lighter tint and with black primaries. I have also seen other males directly intermediate, some of them having white feathers interspersed among brown ones, and the like occurring with regard to the tail-feathers, some being white, while others were brown in the same specimen. I believe that when the long feathers have been once acquired by either sex they are not again thrown off, and that they are not a seasonal or breeding characteristic, as some authors have supposed: the short-tailed birds which are always chestnut are very young birds. To be more concise, I may state, that the white birds are invariably males, that the chestnut birds with black primaries are also males, that the chestnut birds with brown primaries are females, and that the short-tailed birds are the young of the year of both sexes.

Among Mr. Hodgson's Drawings in the British Museum I find a representation of the nest of this species ; it appears to be a neat, round, cup-shaped structure, apparently composed of grasses, lined with vegetable fibres and similar materials, and ornamented externally with flat flakes of white lichens. The eggs are vinous red, speckled at the larger end with small dark brown spots.

The adult male has the entire head and crest deep glossy steel-green ; upper surface white, with a fine line of black down the shaft of each feather ; spurious wings and primaries black, narrowly edged externally with white ; secondaries black, broadly margined on both webs with white, the two inner ones white, with a broad stripe of black down the centre, and a narrower one of the same hue along the margin of the inner web ; tail white, the shafts of the two centre feathers black for more than one-third of their length from the base ; the remaining feathers have their shafts black throughout their entire length, and are also narrowly margined with the same hue on their external webs ; under surface white ; eye very dark brown, surrounded by a carunculated lash of an azure-blue ; bill azure-blue, with the tip of the upper mandible black ; inside of the mouth olive-green ; feet bluish black.

The adult female has the head and crest of the same colour as in the male ; the whole of the upper surface, wings and tail rich lively chestnut ; the inner webs of the primaries brownish ; chest clouded with grey ; abdomen and under tail-coverts white.

Young birds have the crown of the head and crest as in the adult ; throat, breast, and back of the neck dark grey ; upper surface, wings and tail chestnut, with the exception of the inner webs of the primaries, which are brown ; abdomen and under tail-coverts buffy white.

For the details of the soft parts I am indebted to Mr. Blyth of Calcutta, who kindly sent me a very pretty drawing of them, from which the above description of their colours is taken.

The Plate represents adults of both sexes of the natural size, and a youthful bird in the distance.



MUSCIPETA UNCEI, Gould.

J. Gould and H. C. Richter, del et lith.

Hall and J. Walton, sculp.

MUSCIPETA INCEI, *Gould.*

Ince's Paradise Flycatcher.

Muscipeta Incei, Gould in Proc. of Zool. Soc., 1852.

I HAVE received examples of this new species from two sources, a young bird from the collection of the late Captain J. M. R. Ince, R.N., and a fine male from the collection of John Reeves, Esq. ; both these specimens had been procured in the neighbourhood of Shanghai in China. The officers of Her Majesty's Service have ever honourably distinguished themselves for their love of science, but to few has ornithology been more largely indebted than to Captain Ince, who by his keen pursuit of this branch of study during the surveying voyage of H.M.S. Fly, contributed so largely to our knowledge of the birds of North-eastern Australia, and who was as actively prosecuting his researches on the coast of China when death prematurely closed his useful career : in dedicating then this fine bird to his memory, I feel it will be admitted by all that I am only paying a just tribute to one who was so ardently attached to perhaps the most pleasing branch of natural history.

The *M. Incei* is a species intermediate in colour between the *M. Paradisi* of India and the *M. principalis* of Japan ; it partakes of the characters of both, but is quite distinct from either : from the former it differs in the broader, rounder and shorter plumes of the crest, and in the dark chestnut colouring of the upper surface ; and from the Japanese bird in the dark colouring of the throat not extending on to the flanks, in the upper surface not being of so rich a plum-colour, and in the tail being chestnut instead of black. I have not seen a sufficient number of examples to determine whether the sexes differ, as in *M. Paradisi* : dark-coloured birds only have as yet come under my notice ; Mr. Reeves's specimen has a label attached to it, stating that it is a male, and that the carunculated skin round the eye is cobalt blue, the eye dark brown, and that the crop was filled with insects.

Head, throat and crest very deep glossy steel-green ; upper surface, wings and tail very deep chestnut ; primaries and secondaries black, margined with deep chestnut on their outer webs ; chest dark grey ; abdomen and under tail-coverts greyish white ; bill blue.

In the young bird the head and neck are dull black ; back and wings deep chestnut ; wings brownish black, margined with pale chestnut ; tail brown ; breast and flanks sooty ; middle of the abdomen and vent dull white.

The Plate represents an adult male and a young bird of the natural size.



NEOTOMA BRANDIS.

NILTAVA GRANDIS.

Grand Niltava.

Chaitaris grandis, Blyth, Journ. Asiat. Soc. Beng., vol. xi. p. 189.

Niltava grandis, Gray and Mitch. Gen. of Birds, vol. i. p. 264.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 174.

Bainopus irenoides, Hodgs.—Gray, Zool. Misc. p. 84.

——— *grandis*, Gray, Cat. of Spec. and Draw. of Mamm. and Birds, presented to Brit. Mus. by B. H. Hodgson, Esq., p. 91.

OF the three species of the genus *Niltava* known to ornithologists, the present, as its name implies, is the largest, if not the most richly coloured. The southern slopes of the Himalayas, but especially those of the eastern portion of this great range of mountains, appear to be its natural habitat. The rich forests of Nepaul, Sikim and Bhotan, are localities in which it has been found; and many of the specimens in my collection have "Darjeeling" marked on the labels attached to them, to indicate where they were procured. Mr. Grace informs me that it is mostly met with at an elevation of from eight to ten thousand feet, that it is nowhere very numerous, and that it is generally seen in pairs, and rarely in company with other birds. Its food, according to Mr. Hodgson, consists of various kinds of insects, which are procured both among the foliage and on the ground, but never taken on the wing; pulpy berries and hard seeds are also partaken of in the winter.

In this species, as in the other members of this limited genus, the plumage of the female is very different from that of the male: the outward form of the two sexes is, however, as is generally the case, in perfect unison, and it is no less remarkable than it is interesting to observe in both, the beautiful mark of rich blue which adorns each side of the neck; again, following a universal law which prevails among birds, wherever the sexes differ in plumage, the young males of the first year assimilate so closely to the female, that dissection must be resorted to, to distinguish them.

The male has the crown of the head, a large mark on each side of the neck, the shoulders and the rump brilliant lazuline-blue; remainder of the upper surface-wings and tail black glossed with deep blue; forehead, lores, cheeks, chin and breast deep black; abdomen purplish black, becoming paler towards the vent, which is bluish black; under surface of the wings and tail black; bill black; legs dusky black.

The female has the forehead and cheeks reddish brown; back of the head and neck greyish olive; remainder of the upper surface-wings and tail brown, becoming of a deeper or rufous hue on the primaries and tail-feathers; throat sandy buff; on either side of the neck a narrow mark of liliaceous blue; all the under surface tawny.

The young, just after leaving the nest, are characterized by the general plumage being brown, with all the feathers of the head and body marked with longitudinal tear-shaped spots of chestnut similar to those observed in many of the Saxicoline birds.

The accompanying Plate represents two adult males and a female of the natural size.



ALOUA SUNDARA: *Hist.*

J. Gould and H. C. Richardson del. lith.

NILTAVA SUNDARA, *Hodgs.*

Sundara Niltava.

Niltava Sundara, Hodgs. Ind. Rev. 1837, p. 650.—Gray and Mitch. Gen. of Birds, vol. i. p. 264.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 174.—Cat. of Spec. and Draw. of Mamm. and Birds, presented to Brit. Mus. by B. H. Hodgson, Esq., p. 92.

——— *sordida*, Hodgs.—Gray, Zool. Misc. p. 84.

Smallest Shamah, of Europeans (Capt. Boys).

JUDGING from the many examples of this bird I have observed in large collections from Upper India, and from the information communicated to me by Mr. Grace, the present species would seem to be far more numerous than the *Niltava Grandis*, to have a wider range, and to be more generally diffused. It is also said to be much quicker in its actions, more busy among the foliage, and to frequent alike the higher and lower branches of the trees; its food consists of insects generally, to which berries and fruits are occasionally added.

The great stronghold of this beautiful species may be said to be the temperate and warmer regions of the southern slopes of the Himalaya; the countries of Nepaul and Bhotan are those from which I have received specimens: many beautiful examples were obtained at Bumourie and Bhurthal by Captain Boys; and Mr. Blyth states that it also inhabits Assam.

The male bird, as will be seen by the accompanying Plate, is very beautiful, and must, both on that account and from the liveliness of its actions, be a most conspicuous and attractive object among the trees; on the other hand, nothing can be more quiet and unobtrusive than the colouring of the female, which, indeed, offers so strong a contrast, that were it not for the beautiful liliaceous markings of the sides of the neck, I should hesitate before pronouncing them to be the two sexes of one and the same species; the party-coloured males of the year however at once set the matter at rest.

The male has the crown of the head, shoulders, rump, a narrow mark on either side of the neck and the margins of the basal three-fourths of the tail-feathers beautiful lazuline-blue; remainder of the upper surface, wings and tail blackish blue; throat black; forehead and lores deep velvety black; breast, abdomen and under surface of the shoulder tawny buff; bill black; feet dark brown.

The female has the forehead, lores and throat pale reddish brown, all the upper surface olive-brown; tail reddish brown; on either side of the neck a small liliaceous mark; on the breast a crescent of greyish white; and all the under surface pale greyish brown.

The Plate represents a male and a female of the natural size.



ALTAIA MACREGUII B.

NILTAVA MACGREGORIÆ.

MacGregor's Niltava.

Phœnicura MacGregoriæ, Burt. in Proc. Zool. Soc., Part III. p. 152.

Niltava fulgiventis, Hodgs. Ind. Rev. 1837, p. 650, male.

Chaitaris auricularis, Hodgs. MS.

Dimorpha auricularis, Blyth, Journ. Asiat. Soc. Beng., vol. xii. p. 940, female.

Leiothrix signata, McClell. in Proc. of Zool. Soc., vii. p. 162, female.

Niltava MacGregorii, Gray and Mitch. Gen. of Birds, vol. i. p. 264.—Cat. of Spec. and Draw. of Mamm. and Birds, presented to Brit. Mus. by B. H. Hodgson, Esq., p. 91.

——— *MacGregoriæ*, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 174.

THE credit of first bringing this rare species under the notice of the scientific world is due to Staff-Surgeon Burton, who, in the latter part of the year 1835, named it at one of the bimonthly meetings of the Zoological Society of London, *MacGrigoriæ*, "in honour of the only daughter of Sir James MacGrigor, Bart., M.D., F.R.S., Director-General of the Army Medical Department." The original specimen from which Mr. Burton drew up his description forms part of the collection at Fort Pitt, Chatham; and my figure is taken from the same individual, which, with the kind and liberal permission of the authorities, I was allowed to remove to London for illustration in this work: the figure of the female is from a specimen in the British Museum, which formed part of the extensive and valuable collection sent to this country by B. H. Hodgson, Esq.

The southern slopes of the Himalayas, and the countries of Assam and Nepaul, appear to constitute the native habitat of this beautiful little species, the habits, manners and food of which are doubtless very similar to those of the other members of the genus.

The male has the crown of the head, back of the neck, back, scapularies, wing-coverts, and the external webs of the tail-feathers rich dark blue; forehead, line over the eye, a mark on either side of the neck, and the rump verditer-blue; wings brown; inner webs of the tail-feathers black; lores black; throat black, slightly glossed with blue; breast bluish grey, becoming gradually paler until it is almost white on the under tail-coverts; bill blackish brown; feet light brown.

The female has the forehead, cheeks, chin and throat sandy buff; all the upper surface brown, becoming of a rufous hue on the tail; on either side of the neck a small liliaceous mark; under surface tawny.

The Plate represents the two sexes of the natural size.



NECTARINIA OSEEA, Bonap.

NECTARINIA OSEA, Bonap.

Jericho Sun-bird.

Cynmyris Osea, Bonap. Compt. Rend. de l'Acad. Sci., tom. xlii. p. 765.

Nectarinia Osea, Trist. in Proc. of Zool. Soc. 1864, p. 445.—Id. in Ibis, New Ser. vol. i. (1865) p. 72, pl. ii.

I AM indebted to Mr. and Mrs. Amhurst, of Diddington Park, Norfolk, for several examples of this beautiful but hitherto little-known Sun-bird for illustration in the 'Birds of Asia,' and also for a specimen of the plant on which I have figured it, all of which were obtained during their visit to Syria. Science is not less indebted to the Rev. H. B. Tristram for the very interesting account of this bird published by him in the 'Ibis' for 1865, from which I take the liberty of extracting some interesting passages:—

"Our acquaintance with the Sun-bird commenced at Jericho, on the last day of the year, when six specimens were obtained close to our camp at Ain Sultān. The oases of the plains of Jericho appear to be its metropolis. We never met with it except in the neighbourhood of water; but wherever a few tamarisks, zizyphus bushes, or graceful 'retem' shade a fountain or straggling pool in some deep glen opening on the Dead Sea, there a few occur. The larger oases, however, of Jericho at the north-west and Safieh at the south-east end of the Dead Sea are the resorts of great numbers, which, though there to be found in almost every tree, are nowhere gregarious. They are noisy and pugnacious, the males chasing each other with loud cries, and being as tenacious of their respective freeholds as the Robin of Europe. The note is clear and monotonous, very much like the call of the Willow-Wren, but sharper, and often reminding one of that of the Blue Tit, yet with a more hissing sound. It is incessantly repeated from sunrise to evening, and the whereabouts of the male bird can at once be detected; but to see him is not so easy, as he ceaselessly hops in the centre of the thickest and most impenetrable scrub, and darts very quickly and suddenly across the open from tree to tree. The male is extremely restless, and, as it twists and clings to one twig after another in search of insects, its actions remind one of those of the Tits much more than of those of the Creeper. Like *Trichodroma muraria* it opens and closes its wings with a curious jerking flap. Occasionally I have seen two rivals for the favours of a female singing on the top of a tree, and puffing out their brilliant orange and red axillary tufts, which only at such times are at all conspicuous.

"We found these Sun-birds plentiful by the wooded banks of the Jordan, but never far removed from the stream, and ascertained that their summer range is more extensive than we had expected; for one day in the month of March while shooting on the south side of Mount Carmel, on the slopes which run down to the Plain of Sharon, I secured a pair close to the edge of the plain, and not far from the sea. This was the only occasion on which we met with the bird far away from the Jordan valley; but I have reason to believe it has been obtained in Asia Minor, as a French collector at Smyrna described to me a bird he had once received from the interior, which could only, I think, have been a female of this species.

"In April I returned to our old quarters at Ain Sultān, near Jericho, and in the afternoon of the 13th I discovered no less than seven nests—one with three eggs in it, another with two hard-set, a third in the course of construction, and four containing young birds. All were in precisely similar situations, suspended from the extremity of a small twig hanging down in the centre of a 'nubk' tree, the thorny branches of which spread in a circle so close to the ground that I had in every instance to creep on all fours to get under them. These nests were perfectly inaccessible to the attacks of the serpents and lizards which there abound,—and were very neatly made and compact internally, with a small hole in the side, long straws and fibres being attached to the extremity of the drooping branch, and on these the bag is woven; when finished, a few leaves and straggling straws are loosely fastened all round, to elude observation and remove the appearance of art.

"In form and size *Nectarinia Osea* resembles *N. Asiatica*, but has the upper portion of the axillary tufts rich red instead of orange, and the metallic reflexions of the back and throat bright green in lieu of dark purple, which colour only appears on the forehead and the lower part of the breast. It is also allied to *N. affinis* from Abyssinia, but differs in the greater extent of the green instead of purple reflexions.

"The male varies much in colour, and does not appear to attain the nuptial dress till after Christmas, and loses it again in the summer. Not more than one in four of the males we shot in January was in full plumage, the brilliant metallic reflexions of the back, throat, and breast being interrupted by many brown feathers; and I have several times taken paired and breeding birds in this incomplete livery.

"The female plumage is always brown grey above and lightish olive grey beneath, with palish-yellow vent and under tail-coverts; and the tail black, with metallic-green reflexions."

The Plate represents the two sexes, of the natural size. The plant is *Psoralea bituminosa*.



NECTARINIA ZEYLONICA .

NECTARINIA ZEYLONICA.

Ceylonese Sun-bird.

- Certhia zeylonica*, Linn. Syst. Nat., tom. i. p. 188.—Id. Gmel. edit., tom. i. p. 482.—Lath. Ind. Orn., vol. i. p. 285.
—— *Philippensis olivacea*, Briss. Orn., tom. iii. p. 623, pl. xxxiv. fig. 4.
Ceylonese creeper, Lath. Gen. Syn., vol. ii. p. 712.—Shaw, Gen. Zool., vol. viii. p. 203.—Lath. Gen. Hist., vol. iv. p. 227.
Nectarinia zeylonica, Jard. Nat. Lib. Nect., pp. 213 and 261, pl. 20.—Blyth, Journ. Asiat. Soc. Beng., vol. xii. p. 976.—Id. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 226.—Gray, Gen. of Birds, vol. i. p. 98, *Nectarinia*, sp. 47.—Tytler in Ann. & Mag. Nat. Hist., 2nd ser. vol. xiii. 1854, p. 373.
Cinnyris zeylonica, Bonap. Consp. Gen. Av., tom. i. p. 409, *Cinnyris*, sp. 46.
—— *ceylonica*, Sundev. in Ann. & Mag. Nat. Hist., vol. xviii. p. 256.
Cynnyris zeylonica, Bonn. et Vieill. Ency. Méth. Orn., part ii. p. 594.
—— *sola*, Bonn. et Vieill. Ency. Méth. Orn., part ii. p. 597.—Jerd. Madras Journ. of Lit. and Sci., vol. xii. p. 226.
Cinnyris nigrilbus, Less.
—— *lepidus*, Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part ii. 1832, p. 98.
Certhia dubia, Shaw, Gen. Zool., vol. viii. p. 204?
—— *quadricolor*, Scop. in Sonn. Voy., tab. 30?
Leptocoma Zeylonica, Cab. Mus. Hein., Theil i. p. 104.—Horsf. & Moore, Cat. of Birds in Mus. East-Ind. Comp. vol. ii. p. 740.—Jerd. Birds of India, vol. i. p. 368.
Sukkur Khora, Hindoos.
Mace Chungsee, Bengalese.

As indicated by the length of the list of synonyms given above, this little Sun-bird has received a more than ordinary degree of attention both from ornithologists and travellers—a circumstance which is due to the fact of its being very generally diffused over that portion of India which has been resorted to by Europeans, and particularly by natives of the British Islands. It is to India what the Ruby-throated Humming-bird is to the United States of America, and, like the latter, in its own country is a favourite with all, from the polished Hindoo to the delicate lady who has followed her husband from Albion's soil to the gorgeous East; in a word, it is the Sun-bird *par excellence*, and the one which, from the brilliancy of its hues and a fancied resemblance in its actions and a part of its economy to those of the *Trochilidæ*, has given rise to the assertion that there are Humming-birds in India, whereas it is only in the New World and the adjacent islands that those lovely ornithological gems are to be found.

Mr. Jerdon states that the *N. Zeylonica* “is spread throughout India from the extreme south to Bengal, not reaching the Himalayas. It is rare in Central India, is apparently not found in the North-west Provinces, extends through Dacca to Assam, is exceedingly abundant in Madras, more so, I think, than in Lower Bengal, and appears to be more numerous in the Carnatic than in any other part of the peninsula. In that district it may be seen in almost every garden, flitting about from flower to flower, its brilliant hues every now and then displayed to the eye as it catches their reflexion by the sun.

“It does not change its plumage at the breeding-season, the males always retaining their brilliant plumage. The eggs are usually two in number, of a pale greenish tinge with dusky spots.”

“This bird,” says Mr. Blyth, “is very abundant in the neighbourhood of Calcutta, and appears also to be the commonest species of the genus in peninsular India; but I have never seen it in collections from the Himalaya, nor is it included among the Nepalese species by Mr. Hodgson. It utters a weak shrill chant, delivered in the same key as the song of the British *Accentor modularis*, and frequently emits a low weak chirp that recalls to mind the analogous note of *A. regulus*, or *Certhia familiaris*. The natives in the neighbourhood of Calcutta take them with bird-lime, and, after plucking out the wing-primaries to prevent their fluttering, tie them to a stick and carry rows of them about for sale. They may be kept alive for several days on sugar and water, and I have heard one sing that had had no other diet for some days; but raspberry or other fruit-jam is a better kind of food on which to keep these nectar-feeding birds. The *Nectariniæ*, however, by no means confine themselves to a regimen of this kind; and I have taken so large a spider from the stomach of *N. asiatica*, that I wondered how it could have been swallowed.

“According to Mr. Walter Elliot, the present species ‘builds a hanging nest with an entrance near the top, opening downwards;’ and such is the form of a beautiful fabric before me, which I am assured is the production of this bird. It is attached, nearly throughout its length, to a small thorny twig, and is of an elongated pear shape, composed chiefly of soft vegetable fibres, very densely and neatly interwoven; on the outside are some coarser strips of grass, leaves, scalings of bark, &c.; but the substance and internal lining

are constructed of the softest fibres only, which are reflected over the lower portion of the entrance, so as to fasten down its rim, imparting thus a neatness of finish to this part of the structure; above the floor of the entrance is an overhanging roof or canopy, formed by the lining of the upper third or more of the nest being made to project semicircularly over the orifice, and then finished externally, like the rest, with coarser material, and some bits of leaves and the like, to disguise the nature of the fabric."

Capt. Tytler says, "The little Sun-bird," as the charming *Nectarinia zeylonica* is called, is very common, and forms a beautiful addition to the fauna of Barrackpoore. Early in the morning are these busy little creatures seen sucking the nectar from flowers. I had several of their nests; they are elegantly constructed, and are suspended to the branch of a creeper or other bush; I found a very pretty one suspended to some creepers inside a bower over my bedroom-window. The eggs vary in size and colour as well as in number."

Mr. Layard states that it is very abundant in the southern part of Ceylon, and very pugnacious.

As will be seen by the accompanying Plate, the sexes differ greatly in colour, the female being devoid of the brilliant hue which renders the male so beautiful and conspicuous.

The male has the crown of the head and shoulders deep glossy metallic bronzy purple; throat equally rich deep steel-blue; lower part of the back and upper tail-coverts fine metallic blue; sides of the neck, a band across the lower part of the throat, back of the neck, back, and wing-coverts very deep maroon-red; wings very dark brown, with light cinnamon-brown margins; tail black; under wing-coverts white; abdomen sulphur-yellow, fading nearly into white on the under tail-coverts; bill and legs black.

The female has the upper surface and wings olive, tinged with rufous; throat and flanks grey; abdomen, vent, and under tail-coverts pale sulphur-yellow.

The Plate represents two males and a female, of the natural size. The name of the beautiful orchid is *Dendrobium pulchellum*.



NECTARINIA INSIGNIS. Gould.

J. Gould & H.C. Richter, del et lith.

Walter. Imp.

NECTARINIA INSIGNIS, *Gould.*

Penang Sun-bird.

Nectarinia insignis, Gould in Proc. of Zool. Soc. 1865, p. 663.

EVERY ornithologist who has turned his attention to the birds of the Old World is aware that the Sun-birds are exceedingly numerous. Tropical Africa abounds with them; they are equally abundant in India from the Himalayas to the most southern point of the peninsula; many inhabit Malasia, Java, Sumatra, and the islands generally to New Guinea and even to Northern Australia. In each of those countries the woods are tenanted and the flora visited by these nectar-loving little birds.

As may be readily imagined, considerable diversity of form is found to exist among them, and consequently they have been subdivided into various genera; in the present work, however, I have retained all the species under the term *Nectarinia*, but have at the same time generally indicated the section or genus to which each has been respectively assigned. The present bird, which is here figured for the first time, belongs to *Arachnechthra*, the members of which are distinguished for having a beautiful flame- or yellow-coloured spot on each side of the chest. *N. Osea*, *N. Asiatica*, and *N. Lotenia* are other examples of this form. I regret to say that nothing is known respecting the present very distinct species. The specimen from which my figure was taken was received direct from Penang by a gentleman in Glasgow, who sent it, together with fine skins of *Polyplectron*, *Harpactes*, *Cymbirhynchus*, &c., to a fishing-tackle maker in London, to be made into Salmon-flies; and I consider myself fortunate that they came under my notice, as I was thereby enabled to rescue the solitary specimen of this lovely bird from such an ignoble fate.

In size the *N. insignis* is intermediate between *N. Lotenia* and *N. Asiatica*, from both of which it differs in the green colouring of its crown, and in the beautiful purple tint of the breast and abdomen.

Crown of the head deep shining green; shoulders, wing-coverts, rump, and upper tail-coverts shining green, tinged with purple; a narrow line down each side of the throat; breast and abdomen rich glossy blue, tinged with purple; chin and centre of the throat rich purplish-red; on each side of the breast a tuft of rich gamboge-yellow feathers; nape and back deep velvety black; primaries and secondaries glossy brownish black; tail rounded at the end, of a deep bluish black, some of the outer feathers narrowly margined externally with shining green; lower part of the abdomen, thighs, and under tail-coverts deep black; flanks smoke-grey; bill and feet black.

The figures are of the size of life, on the *Cælogyne Parishii*.

Since the drawing of this species was printed and the above was written, I have become aware that the term *insignis* had been previously assigned by Sir William Jardine to another member of this family. Under these circumstances I propose the name of *fulgida* for the present bird.



NECTARINIA GOULDIÆ.

Mrs. Gould's Sun-bird.

- Cinnyris Gouldiæ*, Vig. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part i. p. 44.—Gould, Cent. of Birds from Himal. Mount., pl. 56.
- Nectarinia Gouldiæ*, Jard. Nat. Lib. Nect., pp. 238–269.—Blyth, Journ. Asiat. Soc. Beng., vol. xii. p. 974.—Id. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 233.—Gray, Gen. of Birds, vol. i. p. 98, *Nectarinia*, sp. 65.—Bonap. Consp. Gen. Av., tom. i. p. 405, *Nectarinia*, sp. 10.
- Æthopyga Gouldiæ*, Cab. Mus. Hein., Theil. i. p. 103 (note).—Horsf. and Moore, Cat. of Birds in Mus. East-Ind. Comp., vol. ii. p. 733.—Jerd. Birds of India, vol. i. p. 364.

“THIS beautiful species,” says Sir William Jardine, in his ‘Natural History of the Sun-birds,’ “will stand as the ornithologist’s record of an accomplished artist. It was dedicated to Mrs. Gould by the friend of her husband, at a time when she had shown how much could be effected by the union of taste and skill, and had produced a series of ornithological figures which could vie with the best that had preceded them, and were excelled only by those which appeared in her later works.”

Although nearly forty years have passed away since Mr. Vigors characterized this species, so few specimens have been obtained, and so little information recorded respecting it, that its history is still almost a blank. In my ‘Century of Birds from the Himalaya Mountains,’ published in 1832, I wrote as follows:—“This very elegant little bird was received from the Himalayas, to which it is supposed to be principally confined. The delicately formed tribe to which it belongs represent in India that equally beautiful group the Humming-birds of America. Like the *Trochilidæ*, the *Cinnyridæ* subsist much upon insects of small size, which they seek for in the centre of expanded flowers, or among the leaves of plants. Little else of their habits can be stated with certainty. The *Cinnyris Gouldiæ* is an exceedingly rare species, and, as far as is yet known, the specimens now figured from are a unique addition to the treasures of science.”

Since the above passage was published, Messrs. Horsfield and Moore have issued their ‘Catalogue of the Birds in the Museum of the East-India Company,’ and Mr. Jerdon his ‘Birds of India,’ in both which works detailed notices of the habits of the various species, where known, are given; but even here, I regret to say, the information respecting the *Nectarinia Gouldiæ* is extremely scanty. Still they do add a little to our knowledge of the subject; and I therefore transcribe their remarks:—

“Examples of this beautiful species were procured by Capt. Strachey, in Kumaon; and it also inhabits Sikim, Sylhet, and Arracan, and is rare at Darjeeling, where, says Mr. Blyth, it is much sought after by collectors, who have currently styled it the ‘Beauty of the Hills.’”

“This Honey-sucker,” says Mr. Jerdon, “is found throughout the Himalayas, from Kumaon to Sikhim, and extends to Assam, Sylhet, and Arracan. I know not at what height it occurs, as I did not procure it myself at Darjeeling; but I imagine it does not ascend to a great elevation.”

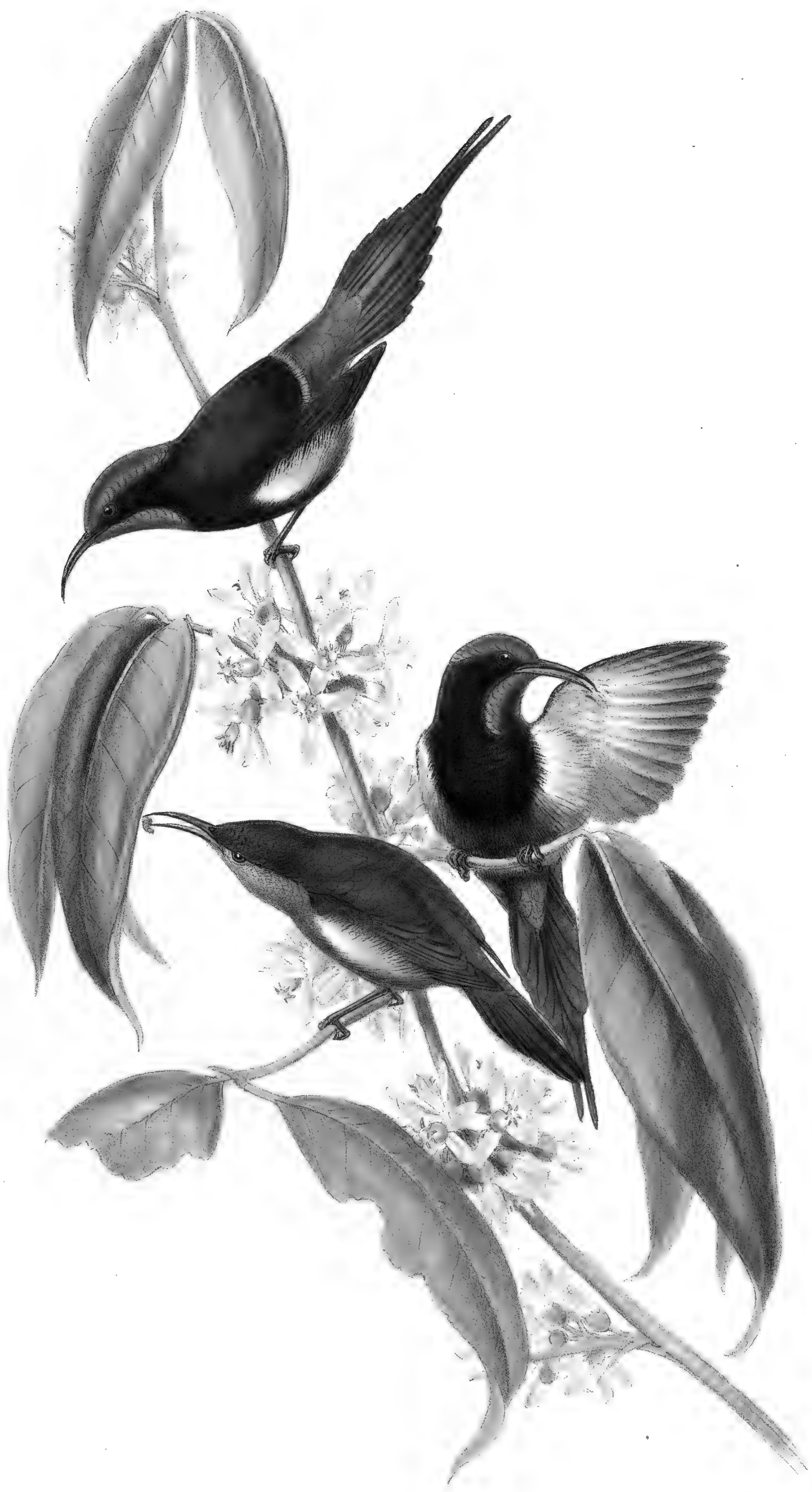
Captain Stackhouse Pinwill informs me that he found the *Nectarinia Gouldiæ* somewhat numerous during the month of September near Koteghur, a few marches out of Simla, and observed them to be feeding from the tubular flowers of a parasite growing in abundance on one of the Himalayan species of *Quercus*. The females and young males were by far the most numerous, the latter frequently showing a feather or two of the more brilliant parts of the plumage, while many of the old males had lost their long tail-feathers. Their food consisted chiefly of honey, with the addition of a few very minute insects.

Although my Plate bears the generic name of *Nectarinia*, the bird really belongs to that section of the family to which the term *Æthopyga* has been assigned, and, together with *Æ. ignicauda*, *Æ. nipalensis*, and a few other species, constitutes, in my opinion, a very natural division, the members of which differ considerably from the flame-spotted *Arachnechthæ*, and equally so from those of the other genera into which the old genus *Nectarinia* is now subdivided.

The male has the crown of the head and nape, the centre of the throat, a spot on each side of the chest near the shoulder, upper tail-coverts, and the basal half of the two central tail-feathers glossy steel-blue with purple reflexions; back and sides of the neck, back, and lesser wing-coverts deep sanguineous red; lower part of the back and under surface of the body brimstone-yellow, with numerous small streaks of orange on the breast; wings pale brown, the primaries narrowly edged with yellow; tips of the central tail-feathers dark brown; lateral tail-feathers brown, with a spot of dusky white on the tip of the inner web; irides brown; bill black; legs brown.

The female is pale olive-green above; has the wings brown, margined with pale olive-green; across the lower part of the back a band of yellow as in the male, but less brilliant and not so well defined; tail dark brown, the lateral feathers tipped with dull white; under surface pale olive-yellow.

The Plate represents the two sexes, of the size of life. The plant is the *Nepenthes ampullaria*.



NECTARINIA SATURATA.

NECTARINIA SATURATA.

Black-breasted Sun-bird.

Cinnyris saturata, Hodgs. Ind. Rev. 1837, p. 273.—Id. Gray, Zool. Misc. 1844, p. 82.

Nectarinia saturata, Blyth, Journ. Asiat. Soc. Beng., vol. xii. p. 276.—Id. Ann. and Mag. Nat. Hist., vol. xx. p. 316.

—Id. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 224.—Bonap. Consp. Gen. Av., tom. i. p. 405, *Nectarinia*, sp. 14.

Cinnyris Assamensis, McClell. Proc. Zool. Soc., part. vii. (1839) p. 167.

Nectarinia Hodgsonii, Jard. Nat. Lib. Nect., pp. 240-269, pl. 29.—Gray, Gen. of Birds, vol. i. p. 98, *Nectarinia*, sp. 66.—Id. Cat. of Spec. and Draw. of Mamm. and Birds pres. to Brit. Mus. by B. H. Hodgson, Esq., p. 59.

Æthopyga saturata, Cab. Mus. Hein., Theil. i. p. 103 (note).—Horsf. and Moore, Cat. of Birds in Mus. East-Ind. Comp., vol. ii. p. 735.—Jerd. Birds of India, vol. i. p. 367.

THIS Sun-bird is another of the ornithological gems which must tend to enhance the interest which attaches to the productions of the great Himalayan range of mountains; for, although it is not decorated with the rich scarlet hue of *N. Gouldiæ* and *N. ignicauda*, this deficiency is amply compensated by the deep maroon-colour of the back, and the rich steel-blue of the crown, throat, rump, and upper tail-feathers, with the contrast they present to the black of the chest, the deep brown of the primaries, and the olive-green of the lengthened flank-plumes; besides which, its adornment is rendered still more complete by the addition of a faint line of yellow across the rump, separating the maroon of the back from the steel-blue of the upper tail-coverts; this mark, however, is so slight that too little of it is apparent to break the harmony of the general colouring. The present bird is in every respect a true *Æthopyga*, notwithstanding that it differs from the other species in colour. The specific term *saturata*, although the oldest, is not the only one that has been assigned to it, McClelland having called it *Assamensis*, and Sir W. Jardine *Hodgsonii*.

It appears to be a law among the *Nectariniæ* for the females to be dull green and destitute of any markings to relieve their uniformity; while the males, as will be seen on reference to the several illustrations, are as constantly clothed in some rich livery, have a much more elegant contour, and much longer tails.

The *N. saturata* appears to prefer regions of an equable temperature; for it neither ascends to the bleak elevations of the ranges, nor descends to the heated forests of the Terrai, which skirt the vast chain of mountains known as the Himalayas. Mr. Moore states that it inhabits Bhotan, and Dr. Jerdon that it extends its range into Assam and Sikhim, where he found it abundant at an elevation of from three to 5000 feet.

The male has the crown of the head, and nape, and a narrow stripe down each side of the throat brilliant violet-blue; lores, ear-coverts, sides of the neck, wings, rump, throat, and centre of the belly black; back and wing-coverts deep maroon-red; across the rump a faint line of yellow; upper tail-coverts and basal portion of the two centre tail-feathers fine glossy steel-blue; wings brown; apical portion of the two central and the lateral tail-feathers dull black; lengthened flank-feathers, lower part of the abdomen, and under tail-coverts very pale olive-green; irides brown; bill black; legs brown.

The female is dull olive-green on the upper surface, with the throat and breast greyish olive; abdomen and under tail-coverts greenish yellow.

The figures represent the two sexes, of the natural size. The plant is the *Lurunga scandens*.



NECTARINIA IGNI CAUDA.

NECTARINIA IGNICAUDA.

Fiery-tailed Sun-Bird.

Cinnyris ignicauda, Hodgs. Ind. Rev. 1837, p. 273.—Blyth, Journ. Asiat. Soc. Beng., vol. xii. p. 972.

——— *rubricaudata*, Blyth, Journ. Asiat. Soc. Beng., vol. xi. p. 192.

Nectarinia phœnicura, Jard. Nat. Lib. Sun-Birds, pp. 242, 270. pl. 29.

——— *ignicauda*, Gray and Mitch. Gen. of Birds, vol. i. p. 98.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 223.

Cinnyris epimecurus, Hodgs., G. R. Gray.

THE almost interminable forests skirting the southern base of the Himalayas, and especially those of Nepaul and Sikim, are the native habitat of this lovely species, of which a fine specimen, procured in Sylhet, and probably the first sent to Europe, was presented to the Zoological Society of London by Sir Philip de Malpas Grey Egerton, Bart., M.P., as far back as the year 1836; since that period others have found their way into several of the museums and private collections of this country; among these may be especially noticed some remarkably fine examples with middle tail-feathers of unusual length, which form part of the extensive collection presented to the British Museum by B. H. Hodgson, Esq.

The female offers a striking contrast to the male, not only in her much smaller size, but in the extreme plainness of her colouring; and Mr. Hodgson speaks of a post-nuptial dress assumed by the male, a kind of plumage which I had considered to be characteristic of the young male of the year.

The male has the forehead and throat glossy steel-blue; ear-coverts brown; back of the neck, back and upper tail-coverts vermilion; across the rump a triangular mark of sulphur-yellow; two central tail-feathers vermilion; lateral tail-feathers brown margined with vermilion; wings brown margined with olive; breast fine yellow with a wash of scarlet in the centre; under surface sulphur or greenish yellow; irides dark brown; bill blackish brown; feet brown.

Much difference exists in the length of the two middle plumes of the tail, some being three and others five inches in length.

The young male has the general plumage olive, with a slight trace of red on the back; the rump, upper tail-coverts and tail as in the adult, except that the central feathers are not so long, and no trace of red on the dull yellow of the breast.

The female is uniform olive above and greenish yellow beneath, with a slight trace of the rich colouring of the opposite sex at the base of the tail.

The Plate represents two males and a female, on the *Engelhardtia Colebrookeana*.



NECTARINIA CALYPARIENSIS.

L. Gould and H. C. Richter del. & lith.

Hallman del. & W. H. A. J. sup.

NECTARINIA GOALPARIENSIS.

Goulpourah Sun-Bird.

Goulpourah Creeper, Lath. Gen. Hist., vol. iv. p. 221. pl. lxxiv.

Cinnyris miles, Hodgs. Ind. Rev. 1837, p. 273.

——— *labecula*, McClell. in Proc. of Zool. Soc., Part VII. p. 167.

Nectarinia Seheria, Tickell, Journ. Asiat. Soc. Beng., vol. ii. p. 577.

——— *Goalpariensis*, Royle, Ill. Him. Bot., vol. ii. pl. 7. fig. 1.—Blyth, Journ. Asiat. Soc. Beng., vol. xii. p. 969.—Gray and Mitch. Gen. of Birds, vol. i. p. 98.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 223.—Jard. Nat. Lib. Sun-Birds, pp. 230, 267, pl. 27.

No one of the beautiful long-tailed *Nectariniæ* appears to be more widely dispersed over the northern and eastern portions of India than the *N. Goalpariensis*, which, as its name implies, and as is stated by Latham, is to be found at Goulpourah; it has also been obtained by Captain Tickell near Seheria in Borabhim; by Captain Boys at Bumourie; figured by Dr. Royle as an example of a tropical form from Deyra Doon; and Mr. Blyth states that it inhabits the sub-Himalayan regions generally, Central and Southern India, Sylhet, Aracan, and the Tenasserim provinces.

Of its habits and economy very little has been recorded; Captain Tickell states that he observed it flitting about the low willow bushes in the dried bed of a stream, and that it has no song, but a loud chirp. Captain Boys says its food consists of honey and insects; and Dr. Royle figures the nest of a pendulous form, but unfortunately has given no account whatever respecting the bird or its habits.

The male has the forehead and crown dark metallic greenish purple; on the nape a broad band of dark olive-green; back and wing-coverts very dark blood-red; wings brown margined with olive; across the rump a fan-shaped mark of pure yellow; upper tail-coverts glossy green; two central tail-feathers very dark glossy purplish green; lateral tail-feathers brown, glossed with rich purple on the basal three-fourths of their outer webs; throat and breast fine light blood-red, within which, proceeding from beneath the lower angle of the bill down either side, is a narrow line of beautiful steel-blue; abdomen pale olive-green, darkest where it meets the scarlet; irides dark brown; upper mandible black; lower mandible brown; legs and feet greyish black.

The female has the upper surface olive-green, becoming much paler beneath; under surface of the shoulder white; central tail-feathers olive-yellow; lateral tail-feathers blackish brown, tipped with white and margined externally with olive-yellow.

The Plate represents two males and a female of the natural size, on the *Clematis montana*.



MYIOPHOBIA VIGORSII *Gifford*

NECTARINIA VIGORSII.

Vigors' Sun-Bird.

Cinnyris Vigorsii, Sykes in Proc. of Comm. Sci. of Zool. Soc., Part II. p. 98, male.

——— *concolor*, Sykes in Ib., p. 99, female.

WHEN writing on the ornithology of Australia, I had frequent occasion to remark the occurrence of species, the habitat of which was restricted to the eastern or to the western portions of that continent, as the case might be; and I find that a similar law exists with regard to many of the birds inhabiting the great Peninsula of India. As far as I am aware, the habitat of the *Nectarinia Vigorsii* is confined to the western parts of India, where it represents the *Nectarinia Goalpariensis*, so generally dispersed over the eastern and north-eastern parts of that great country.

The credit of the discovery, and of first bringing this fine species before the scientific world, is due to Colonel Sykes, whose valuable Catalogue of the birds observed by him in the Dukhun, published in the Second Part of the Proceedings of the Committee of Science and Correspondence of the Zoological Society, has contributed so largely to our knowledge of Indian ornithology; therein he has dedicated this magnificent bird to the late N. A. Vigors, Esq., the first Secretary of the Society, whose enlarged views of natural affinities in Zoology, as exhibited in his many valuable papers in the "Transactions of the Linnean Society," the "Zoological Journal," and the "Proceedings of the Zoological Society," have contributed so essentially to enhance the importance of science and to facilitate the labours of every zoologist. From that period to the present time, few other specimens have either reached this country or been added to the native museums at Calcutta and elsewhere; otherwise, so fine and distinct a species could not have been confounded by Mr. Blyth and others with the *Nectarinia Goalpariensis*, differing as it does in many important particulars, some of which are well detailed in Colonel Sykes's specific characters. Although really belonging to the long-tailed section of the *Nectariniæ*, the tail of this species is not so lengthened as in *N. Goalpariensis* and its near allies; indeed in the female it is almost square. It is altogether a larger and more robust bird than *N. Goalpariensis*, and moreover may always be distinguished from that species by the light yellow striæ which intersect the scarlet of the breast, and by the small crescent of brilliant metallic blue on the ear-coverts. With regard to the bird to which Colonel Sykes provisionally assigned the name of *N. concolor*, with the remark, that as all the specimens he obtained were females, and met with in the same locality as *N. Vigorsii*, it may prove to be the female of that splendid species, I find, on a careful examination of his original specimens, that the opinion he then entertained is correct; consequently the term *concolor* must sink into a synonym.

Colonel Sykes states that the *N. Vigorsii* inhabits only the lofty trees of the dense woods of the Ghauts, and that the larvæ of flies, spiders, ants and minute insects were found in the stomachs of those he dissected.

Forehead and crown dark shining green; cheeks, sides and back of the neck, upper part of the back and lesser wing-coverts, wings and lower part of the back olive-brown; upper tail-coverts and the basal three-fourths of the central tail-feathers dark glossy green; remainder of the tail-feathers brown, glossed on the basal portion of their outer webs with purple; on the rump a fan-shaped mark of pale yellow; throat and breast blood-red, striated down the centre with sulphur-yellow; on the ear-coverts a small crescent-shaped mark of brilliant steel-blue, and on either side of the throat within the red a narrow line of the same brilliant hue; under surface of the shoulder whitish; under surface dark brownish grey; bill black, with the exception of the base of the lower mandible, which is buff; irides dark brown; feet blackish brown.

The female has the entire plumage of a uniform greenish olive, except the under surface of the shoulder, which is greenish white, and that the tail is of a darker or brownish hue.

The Plate represents two males and a female of the size of life.



NECTARINIA NIVALIS.

J. Gould and H. C. Richter del. et lith.

Hillman and J. Walton Imp.

NECTARINIA NIPALENSIS.

Nepaulese Sun-Bird.

Cinnyris Nipalensis, Hodgs. Ind. Rev. 1837, p. 273.

——— *Horsfieldi*, Blyth, Journ. Asiat. Soc. of Beng., vol. xi. p. 107.

Nectarinia Nipalensis, Blyth, Journ. Asiat. Soc. of Beng., vol. xii. p. 974.—Jard. Nat. Lib. Sun Birds, pp. 236, 268. pl. 27.—Gray and Mitch. Gen. of Birds, vol. i. p. 98.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 224.

——— *Horsfieldi*, Blyth, Journ. Asiat. Soc. of Beng., vol. xii. p. 975.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 224.

FROM the numerous specimens of this bird which are obtained in the south-eastern and north-western portions of the Himalayas, it must be exceedingly common in all those districts: it also inhabits Nepaul and Sikim, and is very abundant about Darjeeling.

The *N. Horsfieldi* of Mr. Blyth is in my opinion identical with the present species; the differences he points out are too trivial to be regarded as specific, and he himself asks, "Can it be a variety of *N. Nipalensis*?" he describes the upper parts as "very similar to those of *N. Nipalensis*, only without the red, a slight trace of which, however, appears on the lower part of the sides of the neck; the scale-like nuchal feathers, also, are not so broadly glossed and have more of a purplish shine; the under parts, too, differ only in having merely the slightest trace of flame colour." Upon a careful examination of specimens in my collection to which this description is applicable, with adult examples of the true *N. Nipalensis*, I have little hesitation in affirming that Mr. Blyth's *N. Horsfieldi* is an immature example of that species.

The female offers the usual disparity in size and marked difference in colour: and Mr. Hodgson states that the young males are earthy-brown on all the glossed parts of the mature males.

The male has the head and back of the neck metallic blackish green, with, in some lights, a purple gloss; throat very dark metallic green; upper part of the back and sides of the neck dark rusty red; wings brown margined with olive; on the rump a triangular mark of yellow; upper tail-coverts and basal three-fourths of the two central tail-feathers dark shining green; the apical fourth dark brown; the lateral tail-feathers dark brown, margined on the basal portion of the outer webs with dark shining green; breast very beautiful yellow, streaked with fine scarlet; abdomen and under tail-coverts greenish yellow; irides dark brown; bill black; feet brown.

The female is uniform olive-green, becoming much paler on the under surface; and the lateral tail-feathers tipped with greyish white; bill and feet as in the male.

The Plate represents two males and a female of the natural size, on the *Mucuna anguina*.



NEPTARINUS ASIATICUS

Neptarinus asiaticus

Neptarinus

NECTARINIA ASIATICA.

Asiatic Sun-Bird.

- Certhia asiatica*, Lath. Ind. Orn. vol. i. p. 288.—Ib. Gen. Hist. vol. iv. p. 238.
 ——— *Mahrattensis*, Lath. Ind. Orn. Supp. p. xxxvi.
 ——— *chrysoptera*, Lath. Ind. Orn. vol. i. p. 299.
Grimpereau gris des Philippines, Buff. Pl. Enl. 572. fig. 2.—Ib. Hist. Nat. des Ois. tom. v. p. 508.
Certhia cirrhata, Lath. Ind. Orn. vol. i. p. 299.
 ——— *Philippensis grisea*, Briss. Orn. tom. iii. p. 615. pl. xxx. fig. 1.—Ib. 8vo, tom. ii. p. 5.
 ——— *currucaria*, Linn. Syst. Nat. tom. i. p. 185.—Ib. Gmel. Edit. tom. i. part i. p. 474.—Lath. Ind. Orn. vol. i. p. 285.
 ——— *saccharina*, Shaw, Gen. Zool. vol. viii. p. 258.
Cinnyris currucaria, Sykes, Proc. of Comm. of Sci. and Corr. of Zool. Soc. part ii. p. 98.
 ——— *orientalis*, Frankl. in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part i. p. 122.
 ——— *Mahrattensis*, Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part ii. p. 99.
 ——— *Epauletta*, Hodgs. in Ind. Rev. 1837, p. 272.
 ——— *Strigula*, Ib. in Ind. Rev. 1837, p. 272.
Cinnyris cyaneus, Vieill. 2de Edit. du Nouv. Dict. d'Hist. Nat. tom. xxxi. p. 494.—Ib. Ency. Méth. Orn. part ii. p. 598.
Nectarinia currucaria, Vieill. Ency. Méth. Orn. part ii. p. 586.
 ——— *Mahrattensis*, Vieill. Ency. Méth. Orn. part ii. p. 595.—Gray and Mitch. Gen. of Birds, vol. i. p. 98, *Nectarinia*, sp. 51.—Blyth, Journ. Asiat. Soc. Beng. vol. xii. p. 978.—Gray, Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 59.
 ——— *asiatica*, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 224.—Jard. Nat. Lib. Orn. vol. xiii. Sun-birds, pl. 24.
Le Soui-manga azuré, Vieill. Ois. Dor. tom. ii. p. 210.
The Purple Indian Creeper, Edw. Gleanings, p. 116. pl. 265, low. fig.
Sugar Creeper, Lath. Gen. Syn. Supp. vol. ii. p. 150.—Shaw, Gen. Zool. vol. viii. p. 258.
Mahratta Creeper, Lath. Ind. Orn. Supp. vol. ii. p. 164.
Certhia asiatica, var. A, Lath. Gen. Hist. vol. iv. p. 238.
Le Soui-manga aux ailes jaunes, Vieill. Ois. Dor. tom. ii. p. 64.
Yellow-winged Creeper, Lath. Gen. Syn. Supp. p. 133.—Shaw, Gen. Zool. vol. viii. p. 270.—Lath. Gen. Hist. vol. iv. p. 250.
Le Soui-manga à touffes jaunes, Vieill. Ois. Dor. tom. ii. p. 65.
Tufted Creeper, Lath. Gen. Syn. Supp. p. 132.—Shaw, Gen. Zool. vol. viii. p. 271.—Lath. Gen. Hist. vol. iv. p. 251.
Le Soui-manga à cravatte violette, Vieill. Ois. Dor. tom. ii. p. 35. pl. 15.
Grey Creeper, Lath. Gen. Syn. vol. ii. p. 714.—Shaw, Gen. Zool. vol. viii. p. 221.—Lath. Gen. Hist. vol. iv. p. 231.

THIS beautiful little bird is so generally dispersed over India proper, that to enumerate localities wherein it may be found would be quite superfluous. I may state, however, that my son, the late Dr. J. H. Gould, met with it, among other places, in Scinde, and that that country is probably the limit of its range in a westerly direction. The long list of synonyms given above will show how generally it has been noticed by scientific writers on natural history, and the following notes will prove that it has received equal attention from the observers of Indian ornithology. The synonymy has been largely increased by the great difference in the colouring of the sexes, and by the plumage of the young males varying at different periods of their existence prior to assuming the livery of maturity, and by these differences having caused the older writers to regard the sexes and the young in their different stages as so many distinct species.

The late Hon. F. J. Shore killed examples of this species at Hurdwar in April, and under the date of June 19 remarks,—“I find this species is common in the warmer parts of Ghurwal, and that it is also met with in the warm valleys of the Himalayas, in the Western provinces, and in the Sagur and Nerbudda territories. It hovers over flowers like a Humming-bird while sucking their nectar; I have also observed it on twigs destitute of flowers, engaged apparently in capturing small insects. The yellow and orange patch

on the sides of the chest is scarcely perceptible when the wing is closed," but with every movement of the body shows very conspicuously.

Mr. Blyth states that this bird "visits the neighbourhood of Calcutta only in the cold season, when it is not uncommon. On its arrival both sexes are clad in the plumage referred to *N. curruca* by Sykes, and before they leave, all have more or less completely assumed their nuptial dress, which is also alike in both sexes. In Nepaul it is probably a summer visitant only; and it extends westward to the Indus and southward to Ceylon, but I have never seen it from the eastern side of the Bay of Bengal."

The following interesting notes are from the pen of the late Captain Boys:—

"The native name of this species is *Shukur-Khor*, the signification of which is precisely the same as that of the generic name, being literally 'Sugar-eater'."

"The young males resemble the females during the first year of their existence, but assume the full plumage in the second, when the moulting commences on the breast and throat, where the iridescent colours of the adult first appear."

"This bird feeds on the nectar of flowers and the minute insects frequenting the bottoms of their *coronæ*, which it procures by inserting its long tongue into the flower-cups. Although it almost always settles while feeding, I have several times observed it extract honey from flowers while on the wing after the manner of the *Trochilidæ*, or Humming-birds."

"In 1829 I slightly wounded a male in the bastard wing, secured and brought it home: by some neglect it was unthought of for four days, when, on looking into the bag in which it had been placed, I found that it was not only alive, but that the wing had completely cicatrized: I should observe, however, that the broken part of the wing had been taken off with a pair of scissors immediately after the bird was brought home. I placed it in a cage and succeeded in keeping it alive for several weeks by feeding it upon sugar and water, of which it took great quantities, but, owing perhaps to a want of variety in its food, it became thinner and thinner until it died. During its captivity it was very sprightly, and from the first day readily fed itself by dipping its tongue into the dish of syrup with which it was supplied."

"The nest is rudely formed of dried grasses coated externally with cobwebs, and is generally difficult of access, or hidden from observation."

"The song of the male, though comprising but a few notes, is very sweet."

"Specimens were procured at Sultanpore, Benares, Jan. 22, 1840, and at Jucunie, Nov. 14, 1841."

Captain Tytler, in his "Notes on the Fauna of Dacca," mentions that the *Nectarinia Asiatica* is common, and that it breeds amongst the bushes.

It will be observed that Captain Boys states that the nest of this species is rudely constructed; Mr. Layard, on the other hand, informs us that "the nests of *N. Lotenia* and *N. Asiatica* are elegant domed structures, generally suspended from the extremity of a twig of some low bush artfully covered with cobweb, in which I have often seen the spider still weaving her toils, having extended the web to the surrounding branches, thus rendering the deception still more effective; and it would seem that the birds were aware of it, and left their helper undisturbed."

"The entrance to the nest, which, if built in a bush, is always turned inwards, is screened from the sun and rain by a portico projecting often above an inch beyond the walls. The eggs usually are from two to four, of a whitish ground-colour, so closely speckled with minute dusky spots as to appear grey. They weigh from \varnothing i. gr. 1. to \varnothing i. gr. 6, while the parent bird is only \varnothing ii. heavier. The young males are clad in the livery of the female, but at the first moult assume the proper garb; the brilliant metallic hues first appearing in a long line down the breast."

The male has the head, wing-coverts and upper surface shining greenish purple; wings and tail brownish black, margined externally with purple; sides of the neck shining green, with a wash of blue down the centre, and bounded below by a band of deep red; on each side of the chest a tuft of scarlet and yellow feathers; abdomen black, glossed with deep blue; eyes brown; bill and legs black; roof of the mouth yellow.

The female has all the upper surface pale greyish brown; under surface pale yellow; wings brown with whitish edges; tail brownish black, the two outer feathers tipped with white.

The young male at first resembles the female, but as it advances in age gradually assumes the plumage of maturity; during the transition, the future metallic colouring of the upper surface is indicated by the appearance of a few feathers of that hue at the back of the neck, on the shoulders and other parts, and of the under surface by a broad streak of purple down the throat and a dark patch on the abdomen.

The Plate represents two males and a female of the natural size.

1. The first step is to identify the problem or question that needs to be addressed. This involves understanding the context and the specific requirements of the task.



NECTARINIA LOTENIA.

J. Gould del. H.C. Richter del. lith.

Hallman del. & Co. sculp.

NECTARINIA LOTENIA.

Loten's Sun-Bird.

- Certhia lotenia*, Linn. Syst. Nat. tom. i. p. 188.—Ib. Gmel. Edit. tom. i. pars i. p. 483.—Lath. Ind. Orn. vol. i. p. 286.
Loten's Creeper, Lath. Gen. Syn. vol. ii. p. 715.—Ib. Gen. Hist. vol. iv. p. 235.
Certhia polita, Sparm. Mus. Carls. tab. 59.—Lath. Ind. Orn. vol. i. p. 287.
Cyinnyrus politus, Vieill. 2nde edit. Nouv. Dict. d'Hist. Nat. tom. xxxi. p. 502.—Ib. Ency. Méth. Orn. part ii. p. 586.
——— *Lotenia*, Vieill. Ency. Méth. Orn. part ii. p. 590.
Certhia purpurata, Shaw, Gen. Zool. vol. viii. p. 201. pl. 28.
Cinnyrus purpurata, Steph. Cont. of Shaw's Gen. Zool. vol. xiv. p. 230.
Nectarinia lotenia, Blyth, Journ. Asiat. Soc. Beng. vol. xii. p. 978.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 224.—Gray and Mitch. Gen. of Birds, vol. i. p. 98, *Nectarinia*, sp. 50.—Jard. Nat. Lib. Orn. vol. xiii. Sun-birds, pl. 23.
The Purple Indian Creeper, Edw. Gleanings, p. 116. pl. 265. upp. fig.
Le Souï-manga pourpre, Vieill. Ois. Dor. tom. ii. p. 29. pl. 11.
Polished Creeper, Lath. Gen. Syn. Supp. vol. ii. p. 159.—Ib. Gen. Hist. vol. iv. p. 245.
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By those who are not in the habit of investigating the minute differences which distinguish closely allied species, the present bird might be easily confounded with *Nectarinia Asiatica*, from which, however, it is perfectly distinct; the *N. Lotenia* being of a much larger size, having a much longer and more curved bill, and the whole of the abdomen brown instead of black. The females of the two species resemble each other more closely than the males, but as each accords with the respective sizes of their mates, they also may be readily distinguished. I do not possess examples of the young of this bird, and I am therefore unable to say if they exhibit the same parti-coloured plumage as the young of *N. Asiatica*: that they will do so to a certain extent I have no doubt; but I believe that the black will not extend down the centre of the abdomen as in the immature birds of that species.

The range of *N. Lotenia* appears to be more limited than that of *N. Asiatica*, the southern portions of the Indian Peninsula and the island of Ceylon being the only localities whence I have seen specimens; but Mr. Blyth states that examples from the Carnatic have been presented to the Museum of the Asiatic Society at Calcutta by Mr. Jerdon.

Mr. Layard states that "this species is exceedingly plentiful in the southern and midland districts of Ceylon, but is not so common in the north as *N. Asiatica*."

The male has the head, all the upper surface and wing-coverts deep shining purple, passing into green on the lower part of the back and rump; chin and sides of the neck deep shining green, passing into purple on the breast, and bounded below by a narrow band of deep red; on each side the chest a tuft of scarlet and yellow feathers; wings and under surface brown; tail dull black, the outer feathers margined with purple; bill and feet black.

The female has all the upper surface brown; under surface pale yellow; tail brownish black, the outer feathers tipped with white.

The Plate represents two males and a female of the natural size.



ZOSTEROPS SIMPLEX. Swinh.

J. Gould & H. C. Richter, del. et lith.

Walter, imp.

ZOSTEROPS SIMPLEX, Swinh.

Plain Zosterops.

Zosterops japonica, Swinh. in Ibis, 1861, p. 35 (nec Temm. et Schleg.).

——— *simplex*, Swinh. in Proc. of Zool. Soc., 1862, p. 317, and 1863, p. 203.—Id. Ibis, 1863, p. 294, and 1870, p. 348.—G. R. Gray, Hand-list of Birds, part 1. p. 163.

Sheong-shee of the Cantonese (*Swinhoe*).

ACCORDING to Mr. Swinhoe, this species of *Zosterops* inhabits all the provinces of Southern China, and is also found in the islands of Formosa and Hainan. Its nearest allies are the *Zosterops palpebrosa*, of India, and the *Z. japonica*, of Japan; but the Indian bird is easily distinguished from it by the more lively yellow colour of the throat and upper surface, and the Japanese species by its larger size, by the duller-coloured hue of the upper surface, by the smaller amount of jet-black on the lores, and the darker hue of its flanks. In its habits, disposition, and entire economy it assimilates most closely to its near allies in Australia; a discrepancy, however, occurs in the colouring of their eggs, those of the Chinese bird being described by Mr. Swinhoe as white, while those of the Australian species are delicate blue. As is the case with the other members of the genus, the sexes of *Z. simplex* are alike in colour; but the male slightly exceeds the female in size.

For the following notes respecting this species we are indebted to the researches of Mr. Swinhoe:—

“The *Zosterops simplex* ranges in China from Canton to Foochow, and perhaps a little higher, but not to Shanghai, where it is replaced by *Zosterops erythropleura*. In Formosa and in Hainan it is also an abundant resident. Like the *Z. palpebrosa* it is grey on the underparts. An occasional specimen or two, however, may be picked out of my Amoy series with a tinge of chestnut-brown on the underparts, showing the tendency of the species towards the *Z. japonica*. Some have the abdomen deeper grey than others. The yellow on the throat varies in intensity, as also does the green of the upper parts; but these are chiefly distinctions of sex and age. I have one pale (almost yellow) variety, procured by Captain Blakiston at Canton. All the adults have the black lore and eye-line common to so many of this group. I have specimens from Hongkong, Macao, Canton, Amoy, Foochow, and Formosa, all agreeing in their essential characters.

“It is abundant at Hongkong, where in winter it may constantly be seen, roaming from tree to tree along the roads in small parties, searching every twig for *Aphides* and other small insects. When engaged in pursuit of its food, it hangs in all manner of attitudes, uttering the while a peculiar call-note. In spring it emits a short sweet song. Its well-blended tints of yellow and green, and the snow-white ring that encircles its sharp black eyes, may be seen to advantage by the observer who stands under the trees whereon a number of these sprightly little fellows are exploring the twigs and leaves for small insects. On the 2nd of April I had the good fortune to discover its nest, at the end of a bough of a large-leaved tree. It was attached to several leaf-stalks about eight feet from the ground, and might at first sight have been taken for some insect's nest. It consisted of a small cup, composed of delicate grasses, spider's web, and moss, and much resembled the nest of a Humming-bird. This pretty little structure contained two clear-white eggs.

“In confinement this species readily becomes tame, even when several are kept together; and it may be seen as a cage-bird in most of the towns of South China. At feeding-time they are particularly lively—but when satiated settle on their perch, sidling up to their companions; and after caressing one another for a short time, all ruffle their feathers and dip their heads under their wings. The siesta they take is not long. They all wake up suddenly, and feed again, the males often putting forward the head and singing their soft melodious notes. The *Zosterops* is very fond of bathing, and, for food, besides insects, is very partial to fruit, showing an especial fondness for plantains and bananas, on which it may be almost entirely sustained.”

I am indebted to Mr. Swinhoe for permission to copy a beautiful drawing in his possession of the nest of this species, probably of the one spoken of above.

Forehead, throat, breast, vent, and under tail-coverts sulphur-yellow; upper surface yellowish green, brightest or yellower on the head; abdomen brownish grey, suffused in some specimens with a ruddy tinge; a ring of white feathers round the eye; axillaries white; quills and tail dark brown, margined externally with yellowish green; under edge of the quills, the under surface of their shafts, and also those of the tail white; bill and legs slate-colour.

The Plate represents both sexes and a nest, of the natural size.



ZOSTEROPS ERYTHROPLEURUS, Swinh.

J. Gould & H. C. Richter, del et lith.

Walter Inq

ZOSTEROPS ERYTHROPLEURA, Swinh.

Chestnut-sided Zosterops.

Zosterops chloronotus, Schrenck, Vög. des Amur-Landes, p. 365.

——— *erythropleura*, Swinh. in Proc. of Zool. Soc., 1863, p. 204, and 1870, p. 448.—G. R. Gray, Hand-list of Birds, vol. i. p. 163.

——— *erythropleurus*, Swinh. in Ibis, 1863, p. 336.

As in the case of *Zosterops simplex*, the accompanying figures were taken from specimens kindly lent to me by Mr. Swinhoe. It will be seen by this gentleman's notes, given below, that he formerly considered the *Z. erythropleura* to be identical with the Japanese species, but that on reconsidering the subject he has raised the present bird to the rank of a species. For myself I can affirm that I have never seen a bird like it from Japan, that Mr. Swinhoe's specimens differ materially from four examples of the Japanese bird now before me, and that the very distinct chestnut colouring of the flanks at once distinguishes this bird from every other species that has come under my observation.

The following are Mr. Swinhoe's notes on the subject; and the specific value of the bird must rest entirely with him; I must not, however, omit to add that neither this nor any other Asiatic *Zosterops* that I have seen is identical with the *Z. chloronota*, of Australia, as supposed by v. Schrenck:—

“The distribution of this species extends from Shanghai into Amoorland. I had, until lately, confounded it with the *Z. japonica* of Japan; but while on a visit to M. Jules Verreaux, at Paris, I had the pleasure of examining for the first time a veritable Japanese specimen, and of comparing it with North-China skins. The difference in the two birds is striking. Both, like *Z. simplex*, have black markings on the lore and partly round the white eye-ring. The underparts of *Z. japonica* are dull light brownish chestnut, while the flanks of this species are deep rusty chestnut. This bird is larger and longer-winged than the South-China species, but is exceeded in both respects by the Japanese. Of two specimens from Shanghai and one from Tientsin, kindly lent me by M. Jules Verreaux, the two former are much brighter on the flanks than the latter; but, as they are both males, and the Tientsin bird is a female, the difference may be only a sexual one, and not of locality. What could have induced M. v. Schrenck, in his ‘Vögel des Amur-Landes,’ to confuse this species with the *Z. chloronota*, Gould, of Australia, I cannot understand, since the shape of the bill and head of the latter, and the dull sordid colour of its plumage, show at once a marked difference from the Chinese bird. Indeed there are many species from Asia and Africa far more closely allied to the *Z. erythropleura* than is the *Z. chloronota*. I think all practical ornithologists will agree with me in considering the three species of Eastern Asia distinct *inter se* and from all others of this numerous group. As I have never seen the North-China species alive, except as a cage-bird, I have nothing special to relate respecting its habits.

“Père David says it passes Peking in October, in which month I procured specimens from a birdcatcher in that city, but did not meet with it in a state of nature. It is also offered for sale in the bird-shops at Shanghai; and its range will probably be found to extend from Shanghai northwards to Peking.”

Head and all the upper surface olive green; lores black; ring round the eye white; chin, vent, and under tail-coverts sulphur-yellow, wings and tail brown, margined with olive; under surface grey, fading into white on the centre of the abdomen, and the flanks stained with deep chestnut red; bill light bluish grey, marked with black on the upper mandible; legs deeper bluish grey.

The female is distinguished by having a less amount of chestnut on the flanks.

The Plate represents both sexes, of the size of life.



DICAËUM RETROCINCTUM, *Gould.*

DICÆUM RETROCINCTUM, *Gould.*

Red-collared Dicæum.

Dicæum retrocinctum, Gould, Ann. Nat. Hist. 1872, 4th series, vol. x. p. 114.

I VERY much regret that I can offer to my ornithological readers no precise information respecting the habits and economy of this little bird. The specimens, apparently male and female, have been in my collection for a great number of years, and all I know about them is that I purchased them from a collection of birds said to have been obtained in the Philippine Islands. I have not been able to find any published description of the species; but if I was wrong in characterizing it as new, I shall doubtless soon be set right by some of my contemporaries, as it is a bird of such very marked coloration. I may state, however, that before describing it I showed the species to Lord Walden, our best authority on Philippine ornithology, and compared it with the series in the British Museum.

I reproduce my original description; but a glance at the Plate will give the best idea of the species. Further than this I can say nothing respecting it.

“*Male* (from Manilla).—Head, neck, back, wing-coverts, tail, sides and centre of the throat, and a broad stripe down the centre of the breast steel or bluish black; a semicollar at the base of the neck behind, a small stripe down the chin, and a broader and longer stripe down the centre of the abdomen scarlet; under tail-coverts white; wings slaty black; sides of the chest and the abdomen white, passing into silvery grey on the flanks; bill black, lighter at the base; feet apparently dark brown.

“Total length $3\frac{1}{2}$ inches, bill $\frac{5}{8}$, wing 2, tail $\frac{7}{8}$, tarsi $\frac{1}{2}$.

“*Female?* (from Mindanao).—Like the male on the upper surface, but wanting the red at the base of the neck; chin and throat white; remainder of the under surface grey, fading into white on the abdomen, down the centre of which is a stripe of scarlet, as in the opposite sex; under tail-coverts white.

“Size the same as that of the male.”

The figures on the Plate are those of two males and a female (?), of the size of life.

It is just possible that the figures on the accompanying Plate may represent two species; if so, the name *retrocinctum* will apply to the collared specimens only.



DICÆUM DORSALE, Sharpe.

DICÆUM DORSALE, Sharpe.

Yellow-throated Dicæum.

Dicæum dorsale, Sharpe, 'Nature,' August, 1876, p. 298.—Id. Transactions of the Linnean Society, 2nd series, Zoology, vol. i. part 5.

THE Malayan archipelago is the metropolis of the *Diceidæ*, where nearly every island seems to possess as peculiar species; and in the Philippine Islands occur the representatives of a complete section of the above-named family. These might be called the "black-and-white" Flower-peckers; and the two beautiful birds already figured in the present work on the Plate of *D. retrocinctum* are characteristic species of this section. Since that time Dr. Steere has discovered during his visit to the Philippines two more species—*D. hæmostictum*, Sharpe, from Guimaras and Negros, and *D. hypoleucum*, Sharpe, from Basilan and Malamaui; so that we now know of four of these pied *Diceidæ* in the above-named archipelago. I mention these birds, as I am anxious to correct an error into which I was led when treating of *D. retrocinctum* in the present work. I figured on the Plate of the latter species two birds which I considered might be the sexes of one and the same species, although I hinted that there might be two birds; and this seems to be the case, as both Mr. Sharpe and Count Salvadori have examined the question, and regard the supposed female of *D. retrocinctum* as the species long ago described as *D. papuense* by Gmelin.

The most characteristic representative of this group is *D. trigonostigma*, a species widely spread over the Indo-Malayan subregion, and occurring plentifully in Borneo; it was also found by Dr. Steere in Negros. The present species, called by Mr. Sharpe *dorsale* on account of the red spot on the back, is from the island of Panay, where, according to Dr. Steere, it was "shot in the highest part of the island, in the remains of the virgin forest on the highest range of the mountains west of Ilo Ilo." It is easily distinguished from *D. trigonostigma* by the orange-red colour of the back being confined to the mantle instead of the whole back being yellow, and also by its entirely yellow throat.

The following is a translation of Mr. Sharpe's original description:—

Above bright slaty-grey, the head rather brighter; interscapular region orange-red; wing-coverts uniform with the back, the outer ones edged with olive; quills blackish, externally margined with the same colour as the back, a few of the secondaries edged with olive, the innermost uniform with the back; upper tail-coverts slaty grey; tail black, the feathers margined with slate-colour; lores black; sides of the face dark slate-colour; below very bright orange, the throat and lower abdomen yellow; thighs inwardly grey, externally yellow; bill blackish, the lower mandible paler towards the base; feet dark brown. Total length 3·5 inches, culmen ·5, wing 1·9, tail 1·05, tarsus ·55.

The female is olive-green above, the rump rather more yellow; sides of face uniform with the head; below bright yellow, the breast and under wing-coverts more richly coloured. Total length 3·7 inches, culmen ·5, wing 1·9, tail ·9, tarsus ·55.

The figures are taken from the typical birds procured by Dr. Steere in Panay, and kindly lent to me by him before his return to America.



DICAËUM CRUENTATUM.

J. Gould and H.C. Richter, del et lith

Fullman & Walton, Imp

DICÆUM CRUENTATUM.

Red-backed Dicæum.

Certhia cruentata, Linn. Syst. Nat. Gmel. Edit. tom. i. p. 478.

——— *Bengalensis*, Briss. Orn. tom. iii. p. 663.

——— *coccineum*, Scop.

——— *erythronotos*, Lath. Ind. Orn. vol. i. p. 290.

Red-backed Creeper, Lath. Gen. Syn. Supp. p. 132.—Ib. Gen. Hist. vol. iv. p. 241.

Le Grimpereau à dos rouge de la Chine, Sonn. Voy. aux Indes, tom. ii. p. 209. pl. 117. fig. 1.

Le Soui-manga à dos rouge, Vieill. Ois. dor. tom. ii. p. 57. pl. 35.

Black, White and Red Indian Creeper, Edw. Birds, pl. 81.

Dicæum rubricapillum, Less.

Nectarinia ignita, Begbie.

Dicæum coccineum, Gray and Mitch. Gen. of Birds, vol. i. p. 100, *Dicæum*, sp. 9.

——— *cruentatum*, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 226.

THE *Dicæum cruentatum* is said to be common in the vicinity of Calcutta, and to extend its range eastward to Assam, and thence southward to Tenasserim and Malacca. It is a bird which has been long known, being described and figured in some of the oldest works on ornithology, as will be seen on reference to the synonyms given above. Captain Tytler, in his "Observations on the Fauna of Barrackpoore," states that "the little *Dicæum cruentatum*, with its scarlet back, and the little sombre *D. minimum* are very abundant, but at all times difficult to obtain, owing to their extreme minuteness, besides which they often keep in the upper branches of high trees."—Ann. and Mag. of Nat. Hist. 2nd ser. vol. xiii. p. 373.

This, I regret to say, is all the information I have been able to obtain respecting the habits and economy of this pretty species; we may conjecture, however, that they are very similar to those of its near ally, the *Dicæum hirundinaceum* of Australia, a full description of which will be found in my work on the birds of that country.

The sexes differ very materially in colour, the female being almost devoid of the scarlet colouring of the upper surface, the rump only being of that hue.

The male has the crown of the head, back, rump and upper tail-coverts deep scarlet; wing-coverts greenish black; primaries and tail dull black; sides of the face, sides of the neck and flanks dull black; centre of the throat and breast, abdomen and under tail-coverts light buff; bill black; legs and feet dusky brown.

The female has the head, upper surface, wings and sides of the face olive; rump and upper tail-coverts scarlet; under surface buff down the centre, passing into olive on the sides; bill black, except at the base of the lower mandible, where it is much paler; feet dusky brown.

The Plate represents the two sexes of the natural size.



DICAUM PRYERI, Sharpe.

W. Hart del. et lith.

Walter, imp.

DICÆUM PRYERI, *Sharpe.*

Pryer's Dicæum.

Dicæum pryeri, Sharpe, Proc. Zool. Soc. 1881, p. 795.

MR. PRYER and his brother are both known for their labours in the cause of ornithology, both of them being excellent observers and collectors. Mr. H. Pryer has done very good work in Japan, while Mr. W. B. Pryer is now collecting in North-eastern Borneo, in a part of the country whence no previous collection has been forwarded. The province of Sandakan forms part of the territory now belonging to the North-Borneo Company; and we hear of several naturalists who have joined the staff, who are likely to make us well acquainted with the ornithology of this part of Borneo. To Mr. Pryer, however, belongs the credit of having sent home the first consignment of bird-skins from that part of the world; and the present interesting little species is one of the novelties which have rewarded his efforts.

Mr. Bowdler Sharpe gives the following diagnosis of the species:—

“Similar to *D. nigrimentum* of Salvadori, but distinguished by the whole of the throat as well as the sides of the neck and sides of body black. Total length 2·9 inches, culmen 0·4, wing 1·85, tail 1·0, tarsus 0·45.”

He also gives the accompanying note:—“The first collection sent by Mr. Pryer contained a single specimen of this *Dicæum*; it appeared to be quite different from *D. nigrimentum*, which is in the collection of the British Museum. Subsequently Mr. Pryer forwarded some more adult males, in his second and third consignments; and as all of these agree in having the whole of the throat black, I have no doubt that it is a good species.”

The figure in the Plate has been drawn from the typical specimen, which is a male bird. The female is at present unknown.

[R. B. S.]



MYZANTHE IGNIPECTUS, *Hodgs.*

J. Gould and H.C. Richter, del. et lith.

Hallman del. & Walton, Imp.

MYZANTHE IGNIPECTUS, *Hodgs.*

Fire-breasted Myzanthe.

Myzanthe ignipectus, Hodgs., Blyth, Journ. Asiat. Soc. Beng. vol. xii. p. 983.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 227.

——— (*Micrura*) *ignipectus*, Gray, Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq. p. 60.

——— (*Micrura*) *inornata*, Hodgs., Gray, Zool. Misc. p. 82.—Ib. Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq. p. 60.

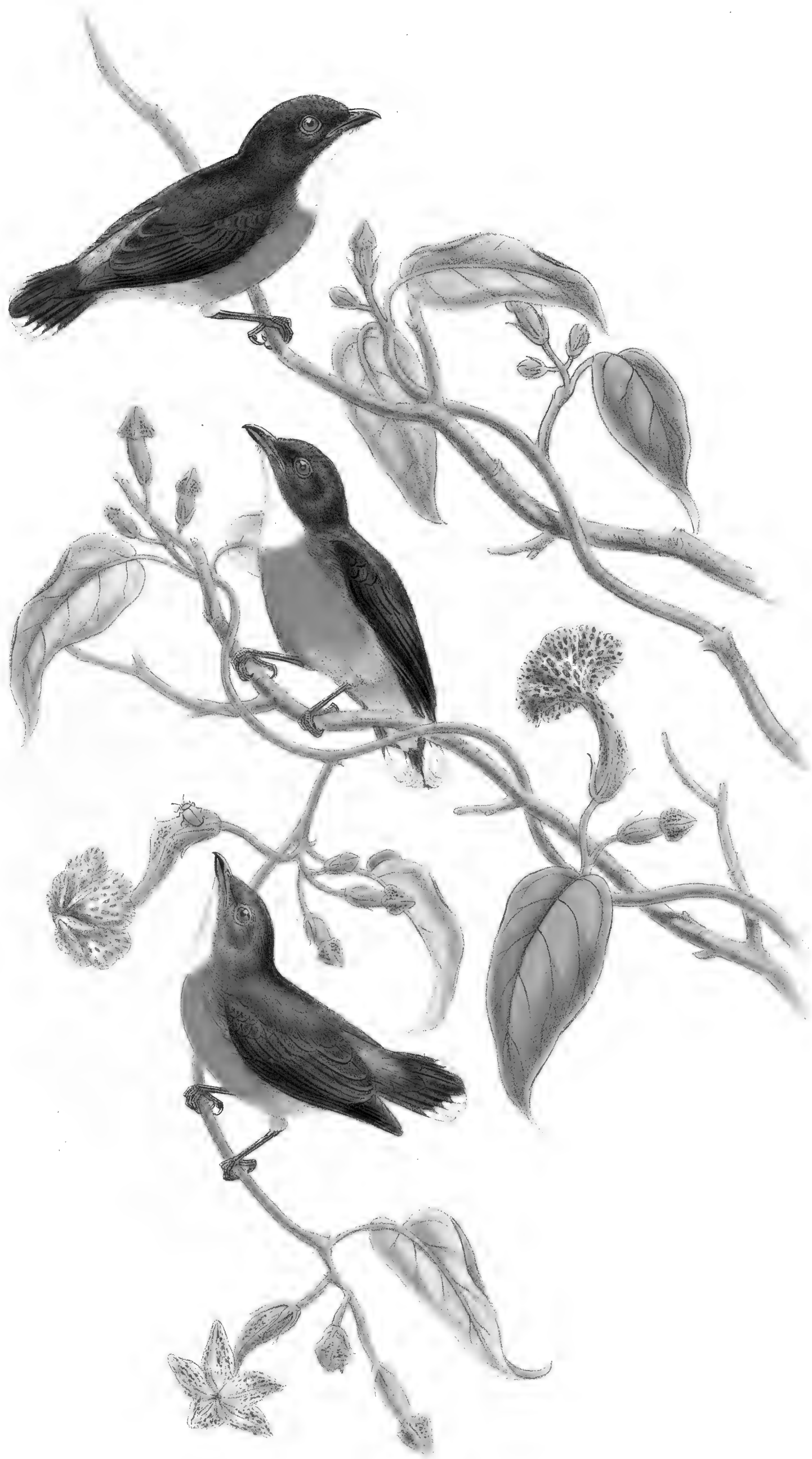
Dicaeum ignipectus, Gray and Mitch. Gen. of Birds, vol. i. p. 100, *Dicaeum*, sp. 21.

THE *Myzanthe ignipectus* is one of the very least of the Indian birds, the weight of a fully adult specimen being, according to Captain Boys, only three and a half drams. It is said to be partial to the higher branches of tall trees, and to seek for its insect food among the leaves and smaller twigs. Captain Boys, who brought many specimens to England, states that he found them at Phurkla in November 1842, and Mr. Hodgson has sent numerous examples to the British Museum and to that of the Honourable East India Company, from Darjiling; I have also seen examples from other parts of Nepaul; we may infer therefore that those countries are the true habitats of the species. Like the other members of the genus, this diminutive bird presents a great difference in the colouring of the sexes, the scarlet patch which adorns the breast of the male being entirely absent in the other sex.

The male has the head, wing-coverts, upper surface of the body and upper tail-coverts dark glossy green; wings and tail black; sides of the head and neck slaty black; down the centre of the throat a mark of buff; on the breast a mark of scarlet, below which is another of black; under surface buff, deepening into olive on the flanks; under wing-coverts silky white; bill black; feet dusky.

The female has the head and all the upper surface greenish olive; throat and all the under surface buff; bill black, except the base of the under mandible, which is paler; feet dusky.

The accompanying Plate represents the two sexes of the natural size.



PRIONOCHILUS VINCENS, *Sclater*.

PRIONOCHILUS VINCENS, *Sclater*.

Legge's Flower-pecker.

Prionochilus vincens, Sclater, P. Z. S. 1872, p. 730.—Holdsworth, tom. cit. p. 483.

THE present species is a very interesting bird, occurring, as it does, in the island of Ceylon. In the Malayan archipelago the genus *Prionochilus* is plentifully represented; and in India it may also be said to be present, as the bird called *Piprisoma agile* is scarcely distinguishable from the genus *Prionochilus*. But it is not among the Malayan species that we must look for the ally of the Ceylonese *Prionochilus*, the bird which it most resembles being in fact the Yellow-bellied Flower-pecker of Nepal, the *Pachyglossa melanoxantha* of Hodgson, which, on examination, turns out to be a true *Prionochilus*, and should stand as *Prionochilus melanoxanthus*.

The present species is named after Captain Vincent Legge, R.A., a gentleman celebrated not only for the ornithological discoveries in Ceylon, but for the very excellent and complete work on the avifauna of that country, which he is now publishing. In a letter addressed to me from Trincomalee in Nov. 1872, he writes as follows:—"As I have learnt from Dr. Sclater that you intend to figure my little bird, *Prionochilus vincens*, I thought it advisable to send you some leaves of the creeper which it frequents so much, and 'pecking' the flowers of which I discovered it at first. I enclose the leaves, the colour of which, when in life, is dull leaf-green; they grow on the long tendrils which encircle the trunks of the tall straight forest-trees at intervals of about an inch. The creeper itself clothes the trunk of the tree *completely*, much more so than ivy does, giving the appearance of a beautiful column of vegetation. The flower of the plant is of a yellowish red, and is a thick seedy substance, somewhat resembling the marigold flower. The little birds may be seen in flocks of from ten to fifteen in one tree, twisting and turning themselves about these flowers and clinging to them back downwards with the active movements peculiar to the family. I have lately traced it up to some little-known ranges of hills in the southern province, at an elevation of 2500 feet; but it is quite confined to the forests of the southern part of Ceylon, and is therefore, as regards its island distribution, *extremely local*. Its little note, 'tsee-tsee,' is scarcely audible when the wind is high, the noise of the moving branches almost drowning it."

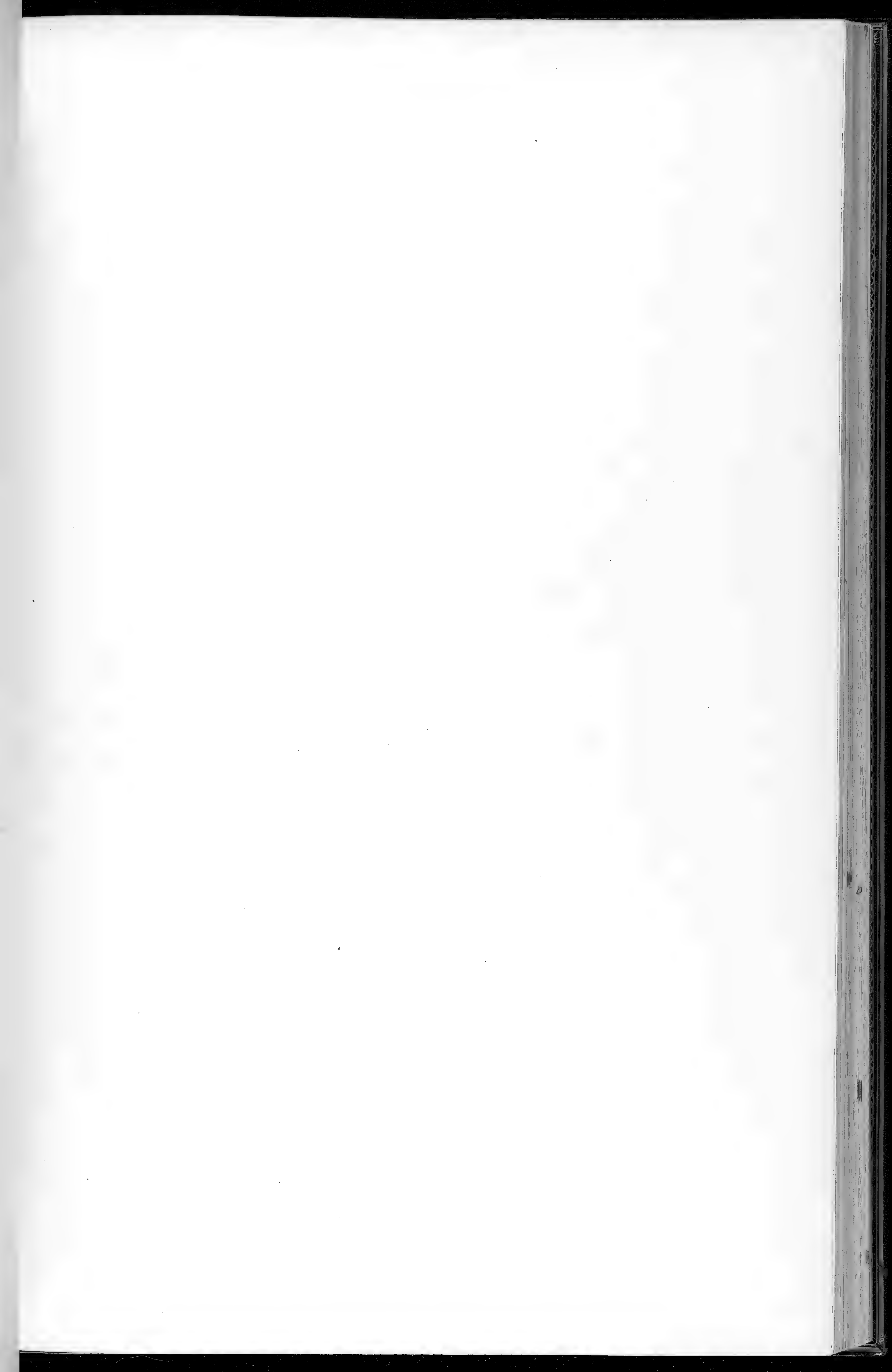
The following is a copy of Captain Legge's original description:—

"*Male*. Length $4\frac{3}{10}$ inches; tail 1·2; wing 2·3; tarsus 0·5; mid toe with claw 0·5, hind toe $\frac{5}{10}$; bill to gape $\frac{9}{10}$, at front nearly 0·4. Third primary longest, slightly longer only than second.

"*Description*. Iris reddish; bill, upper mandible black, lower mandible lightish at the base; legs and feet blackish brown; entire head (except the chin and throat), hind neck, back, rump, and lesser wing-coverts dull steel-blue, palest on the rump, and with the bases of the feathers dark; quills blackish brown, the basal portion of inner webs, with the under wing-coverts, white; tertiaries, greater wing-coverts, and tail black, the former edged with the hue of the upper surface, the latter with the three outer feathers white towards the tip, the colour extending a little up the shaft on the inner web, the next two with a small terminal white spot; chin, throat, and chest white, below which the under surface is saffron-yellow, paling at the vent; under tail-coverts white, edged pale yellow.

"*Female*. Length 4·1 inches; wing $2\frac{5}{10}$; tail 1·1. Bill slightly lighter in hue than that of the male; legs, feet, and iris the same as in the male; head and hind neck faded bluish ashen, centres of feathers dark; back olivaceous brown; secondaries and wing-coverts brown, edged with olivaceous; quills lighter than in the male; sides of neck and chest ashy beneath, paler yellow than in the male, mingled with grey on the flanks; tail brownish black."

I am indebted to Dr. Sclater for the loan of the typical specimens of the present species, which he lent me before returning them to the owner. The Plate represents two males and a female, of the size of life; but I regret that the plant spoken of by Capt. Legge was not adapted for illustration.





SITTA NAGAENSIS. *Godwin-Austen*

SITTA NAGAENSIS, *Godwin-Austen.*

Nágá Nuthatch.

Sitta nagaensis, Godwin-Austen, P. Z. S., 1874, p. 44.

IN my description of the Cinereous Bullfinch I have gone a little out of my way to say a few words on the range of the genus *Pyrrhula*; and I might have added the genus *Sitta* to the general remarks there incorporated, since it is a form equally familiar to most persons, even to those who have no great pretensions to ornithological science. Like the genus above alluded to, the Nuthatches are essentially a northern form, and they may be said to inhabit countries surrounding the temperate and northern portions of the whole world. In India and in China they are entirely confined to the north, while in Africa the genus is absent altogether; in the New World this form does not range south of Mexico.

The members of the genus *Sitta* are all birds of moderate size, very few of them exceeding in this respect our common Great Titmouse (*Parus major*). The number of species now known to science approaches twenty, and they are all characterized by a great similarity in habits and economy. Their chief food consists of insects gathered from the bark of trees, the boles of which they are able to traverse in all directions—that is to say, they run down the trunk as easily as they do up it; this is not the case with the Woodpeckers, which are also bark feeders.

Although during the course of the last few years several new species of *Sitta* have been characterized, the present is one of the most interesting recently brought to light, nor is it the least pretty of the new birds discovered by Major Godwin-Austen during his researches in the Nágá Hills.

The following is the original description of the bird from the pen of the last-named gentleman:—

“Above slaty blue, palest on the neck and head; two centre tail-feathers, shoulder of wing, and secondaries same colour, rather brighter; quills brown-black; outer tail-feathers black, with a white patch on the inner web of the four outer, increasing outwards and in the outermost extending diagonally to the other web, all tipped with grey and terminating in black; a black streak from lores through eye to ear-coverts and down side of neck. Beneath dull sordid white, purer on chin and throat, with a few white feathers bounding the ear-coverts; flanks, thighs, and under tail-coverts rusty chestnut, all the latter with a terminal white spot. Bill black above, grey below; legs greenish black; irides dark brown. Length 4·9 inches, wing 3, tail 1·75, tarsus 0·68, bill at front 0·58, extent of foot 1·2.

“Inhabits the Nágá Hill-ranges, and was not uncommon.”

I have to thank Major Godwin-Austen for the loan of the typical specimen, from which the figures in the Plate have been drawn. They are life-size.



SITTA FORMOSA: Blyth.

SITTA FORMOSA, *Blyth*.

Beautiful Nuthatch.

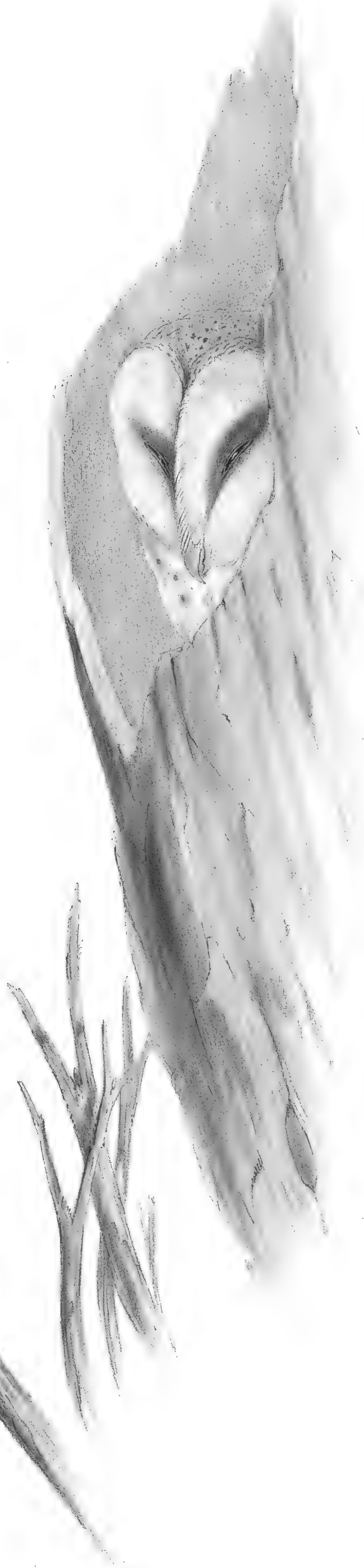
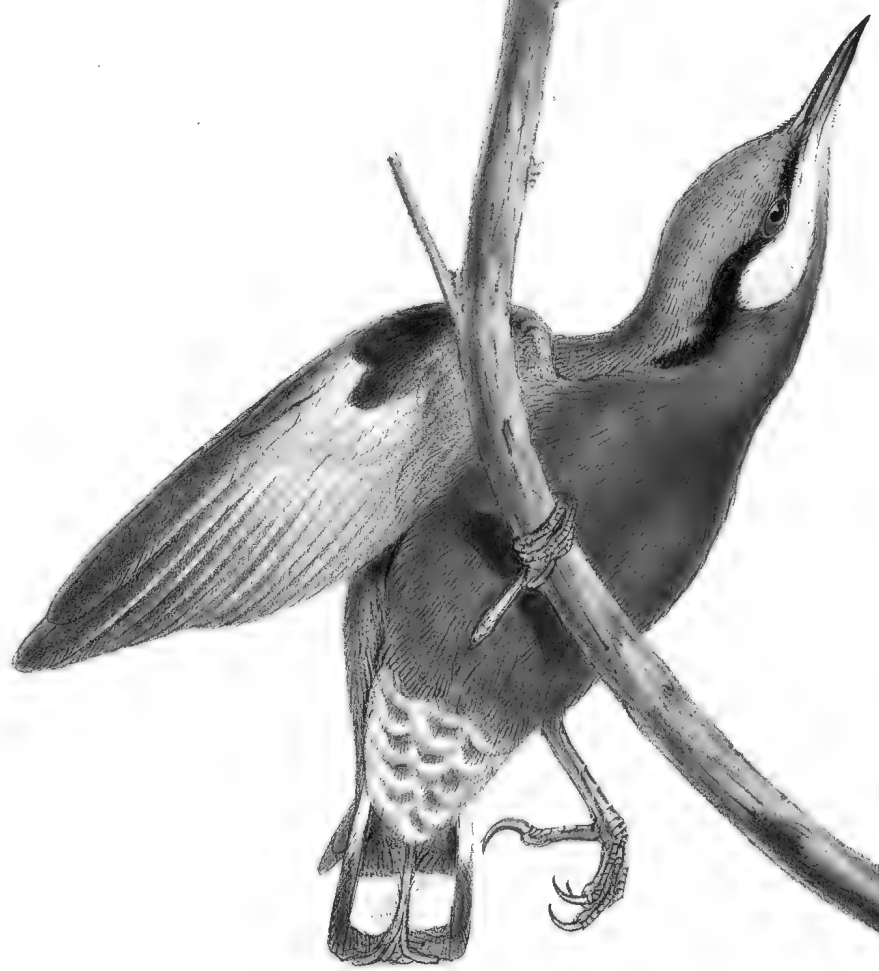
Sitta formosa, Blyth in Journ. Asiat. Soc. Beng., vol. xii. pp. 938, 1007.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 189.—Gray and Mitch. Gen. of Birds, vol. i. p. 148, *Sitta*, sp. 13.

GREAT as have been the discoveries in our Indian possessions during the last twenty years in every department of science, few can have exceeded in interest the beautiful Nuthatch figured in the accompanying Plate; I (and doubtless other ornithologists) was quite unprepared to find a species pertaining to this little group of creeping birds, so gorgeously attired, and consequently so conspicuously different from its near allies as seemingly to warrant its separation from them; on examination, however, we find that its gay colouring is unaccompanied by any structural difference of sufficient importance to justify such a division. For the discovery of this new bird I am unable to say whether we are indebted to a Hodgson, a Charleton, or a Grace, all of whose collections were sent nearly simultaneously to this country, and all of which contained examples. Mr. Blyth of Calcutta appears to be the only person who has assigned to it a specific name, and he has judiciously selected that of *formosa* as indicative of its rich and beautiful colouring. All the specimens I have seen do not amount to half a dozen in number, and these are distributed far and wide; one in the British Museum, which is probably a female, as it differs in being of a somewhat greener hue, and in having the crescentic white markings somewhat less distinct; another in the collection of the Rt. Hon. the Earl of Derby; a third in Dr. Wilson's celebrated collection at Philadelphia; and a fourth, from which my figures were taken, in the fine collection of Indian Birds at Apperley Castle, Salop; and here I must not fail to record the kindness of Mrs. Charleton, who permitted the bird to be removed from the case and forwarded to me in London, for the purpose of figuring in the present work. All the specimens alluded to formed part of collections made in Nepaul, Sikim, or Bhotan, and the local name of Darjeeling was attached to one or more of them.

In Mr. Blyth's Monthly Report to the Asiatic Society at Bengal for December 1842, he says, "This very beautiful bird appears to present no sufficient distinction upon which it could be separated from the ordinary Nuthatches, though the style of colouring of its upper parts is peculiar, and its size also is comparatively large.

"Colour of the upper parts black, beautifully variegated with different shades of ultramarine blue; the scapularies and rump verdigris; and the wing-coverts and tertiaries elegantly margined with white at their tips; under parts bright rusty-fulvous, somewhat paler on the breast and inclining to whitish on the throat; the frontal feathers are tipped with white, and around the eye also is whitish continued backward as an ill-defined supercilium tinged with fulvous posterior to the eye; crown and back deep black, each feather tipped with brilliant ultramarine, forming large and pointed triangular spots; on the back these incline more to verdigris, and are dilute and whitish over the shoulder; wing-coverts black, with strongly contrasting terminal white margins, and more or less laterally edged, as are also the large alars, with bright lavender-blue, which likewise appears within the white margin of the tertiaries, and tips their inner webs; middle tail-feathers lavender-blue, with black mesial line, the rest black, edged externally with blue and tipped with duller blue, the outermost having a large white spot at the extremity of its inner web; and the next a smaller terminal spot of the same. 'Irides dark; bill blackish, the lower mandible pale underneath; and legs greenish horny, with yellow soles.'"

The figures are of the natural size.



SITTA CINNAMOVENTRIS: *Blyth*.

J. Gould and H. E. Richter del. & lith.

Hallman del. & Walton exp.

SITTA CINNAMOVENTRIS, *Blyth*.

Cinnamon-bellied Nuthatch.

Sitta cinnamoventris, Blyth, Journ. of Asiat. Soc. Beng., vol. xi. p. 459.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 189.—Gray and Mitch. Gen. of Birds, vol. i. p. 148, *Sitta*, sp. 9.
—— *castaneoventris*, Hodgs.

It could scarcely have been expected that the discriminating eye of Mr. Blyth would have failed to detect the differences which exist in the two Chestnut-bellied Nuthatches of India, and accordingly we find that he has distinguished them by their size and the intensity of their colouring. To the largest bird with the paler-coloured breast, accurately represented on the accompanying Plate, he has assigned the name of *cinnamoventris*, and he remarks that it "is altogether a stouter bird, with the bill especially much broader, and not, as in the other (*S. castaneoventris*), distinctly and conspicuously compressed for the basal two-thirds The *generic* markings and coloration are so similar, that really I do not see how they can be further characterized apart, yet a glance suffices to show their non-identity as species. With respect to colour, the hues of *castaneoventris* are altogether softer and more delicate, and in both sexes the grey of the upper part of the head and neck is conspicuously paler than that of the back; whereas in *cinnamoventris*, although the head and nape are seen, on particular inspection, to be somewhat lighter than the back, this would scarcely be noticed, unless attention were expressly directed to the observation. In *castaneoventris* the upper tertiaries are uniformly bluish grey, and in the rest there is no strongly marked distinction between the dusky of the inner web and the grey external margin; but in the other species the external blue-grey contrasts abruptly with the black of the internal portion of the feather, which last too extends over a considerable part of the outer web, as is not the case in *castaneoventris*: this distinction may perhaps vary somewhat in amount of development in different specimens, but I suspect will always be found to prevail more or less decidedly. In the male *S. castaneoventris* the colour of the whole under-parts, from the white throat to the mottled under tail-coverts, is of a deep dark ferruginous; while in the female it is not very much darker than in a British Nuthatch; in the new species, the fore neck, breast, and lower parts are uniformly coloured, and much paler than in the male *castaneoventris*, but deeper than in the female, being of a dull rusty cinnamon tint, which suggests the term *cinnamoventris* as a specific appellation."

This species is an inhabitant of the South-Eastern Himalayas, and its range must extend far and wide over the districts of India, since specimens occur in nearly every collection brought from thence to this country.

Upper surface dark blue-grey, paler on the head and back of the neck; lores and stripe running from behind the eye down the sides of the neck black; chin and cheeks white; primaries, inner webs, and the portion of the outer webs of the secondaries next the shaft, slaty black; two centre tail-feathers blue-grey; lateral tail-feathers black, margined with grey, with a spot of white on their inner webs near the tip, gradually decreasing in extent as the feathers approach the centre; the external feather has also a mark of white at the base of the external web; under surface of the shoulder black; at the base of the under side of the primaries a mark of white, which is continued along the margins of their inner webs; under surface deep rusty cinnamon; under tail-coverts dark brown, mottled with white; eye brown; bill blue-grey at the base; front of tarsi and toes blue-grey.

The female only differs from the male, in having the under surface of a very much paler or reddish brown hue.

The figures represent two males and a female of the size of life.



SITTA CASTANEOVENTRIS: *Frankl.*

J. Gould and H. C. Richter del. et lith.

Hollman & Walter Imp.

SITTA CASTANEOVENTRIS, *Frankl.*

Chestnut-bellied Nuthatch.

Ferruginous-bellied Nuthatch, Lath. Gen. Hist., vol. iv. p. 74.

Sitta castaneiventris, Frankl. Proc. of Comm. of Sci. and Corr. of Zool. Soc., Part I. p. 121.—Jard. and Selby, Ill. Orn., vol. iii. pl. 145.—Gray and Mitch. Gen. of Birds, vol. i. p. 148, *Sitta*, sp. 8.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 190.

Sitta castanea, Less. Traité d'Orn., p. 316.

— *ferrugineiventris*, Gould, proposed at Meeting of Zool. Soc., Nov. 13, 1849, and reported in Athenæum, 1849, p. 1183.

THE bird here represented agrees with Major Franklin's description of *Sitta castaneiventris* in every respect, except in being of a somewhat smaller size; which difference induced me in the first instance to believe it to be a distinct species; but upon further consideration of the subject, after having carefully compared it with examples in the Museum of the East India Company which agree more nearly in size with Major Franklin's description, I am inclined to consider them to be merely local varieties of each other: should, however, future research prove them to be distinct, the term of *ferrugineiventris*, proposed by me at a late Meeting of the Zoological Society, may be applied to the smaller bird; at present it must be regarded merely as a synonym of *castaneiventris*. The specimens at the East India House were obtained in Bhotan; the smaller bird here represented was procured by Captain Boys, at Gorruckpoor: they all have the compressed and attenuated bill, pointed out by Mr. Blyth as a character by which they may be distinguished from the *S. cinnamomiventris*, in which the bill is much stronger and of a broader form.

Mr. Blyth states that the *S. castaneiventris* inhabits the Himalayas and hilly regions of India generally; that Mr. Jerdon has shot it at Goomsoor, in high forest jungle, and has seen specimens shot at the top of the Gazallhatti Pass in Mysore; that Captain Tickell obtained it at Chyebassa, and that he has himself seen it in collections from Rajmahl in Bengal, and from Darjeeling. It will certainly be necessary to institute a careful comparison of specimens from localities so widely apart, before we can affirm that they are all referable to one and the same species.

All the upper surface blue-grey, conspicuously lighter on the head and back of the neck; lores and a line from the eye down the sides of the neck black; primaries and secondaries black, margined with grey; two centre tail-feathers grey; lateral tail-feathers black, margined with grey; the two outer ones on each side with a spot of white on their inner web near the tip; chin and cheeks white; under surface of the shoulder black; at the base of the under side of the primaries a mark of white; all the under surface very deep chestnut; under tail-coverts grey, margined with rufous; irides brown; legs and base of the bill blue-grey.

The female differs from the male in having the chin and cheeks grey, instead of white, and the under surface pale rusty brown, instead of dark chestnut.

The above descriptions are taken from specimens collected by Captain Boys, the admeasurements of which are as follows:—

Total length, $4\frac{1}{2}$ inches; bill, $\frac{1}{16}$; wing, $2\frac{7}{8}$; tail, $1\frac{1}{2}$; tarsi, $\frac{1}{2}$.

The figures represent two males and a female of the size of life.



SITTA LEUCOPSIS: *Gould.*

J. Gould and H. C. Richter del. et lith.

Holliman & Walton Imp.

SITTA LEUCOPSIS, *Gould.*

White-faced Nuthatch.

Sitta leucopsis, Gould in Proc. of Zool. Soc., November 13, 1849.

THE White-faced Nuthatch is more nearly allied to the *Sitta Carolinensis* than to any other known species, but differs from that bird in having a much shorter wing, in the rufous colouring of its flanks and under tail-coverts, and in the much smaller amount of white on the outer tail-feathers. Of all the Asiatic Nuthatches this is the rarest in the collections of Europe, no example, so far as I am aware, being contained in any public Museum: Captain Hay's collection of Indian birds lately brought to this country comprised examples, which are now in my own cabinet. Lord Arthur Hay, who diligently studied the birds of India while resident in that country, informs me that it is an inhabitant of the Himalaya, and that he often met with it during his rambles; but I believe his Lordship did not collect specimens. Mr. Blyth, in his observations on the subfamily *Sittinæ* (Nuthatches), has given a short description of a species without assigning to it a specific name, which is doubtless identical with the present bird; his words are—

“*S.* ———? Size about that of *S. cæsia*, with long and slender bill, a black cap, white breast and throat, and dark chestnut belly.

“*Hab.* Interior of N.W. Himalaya.”

Crown of the head and back of neck jet-black; all the upper surface deep blue-grey; primaries black edged with grey; centre tail-feathers blue-grey; lateral feathers black tipped with blue-grey, the two outer ones on each side with a small spot of white on the inner web near the tip; face, chin, throat, breast, and centre of the abdomen white, the latter slightly washed with buff; flanks and under tail-coverts bright chestnut; bill black, with a blue-grey base; legs grey.

The figures are of the natural size.



SEPTA HIMALAYENSIS: Jard. & Selby.

J. Gould and H. C. Richter del et lith.

Hallman del & Walton imp.

SITTA HIMALAYENSIS, *Jard. and Selby.*

Himalayan Nuthatch.

Indian Nuthatch, Lath. Gen. Hist., vol. iv. p. 73?

Sitta Himalayensis, Jard. and Selby, Ill. Orn., vol. iii. pl. 144.—Gray and Mitch. Gen. of Birds, vol. i. p. 148, *Sitta*, sp. 10.

—— *Nipalensis*, Hodgs. in Journ. Asiat. Soc. Beng., vol. v. p. 779.—Gray and Mitch. Gen. of Birds, vol. i. p. 148, *Sitta*, sp. 11.

—— *Himalayana*, Blyth in Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 190.

—— *vittacauda*, Jam. Mem. Wern. Nat. Hist. Soc., vol. vii. p. 490.

THIS little Nuthatch is very nearly allied to its European prototype *Sitta cæsia*, but is of a much smaller size, and moreover possesses a character in the white marks on the central portion of the two middle tail-feathers, by which it may be readily distinguished from every other at present known species of the genus. We have abundant evidence that it enjoys a wide range over the high lands of Central India, particularly the southern slopes of the Himalayas, examples having been contained in the collections obtained by Mr. Hodgson, Mr. Grace, and Capt. Boys. Mr. Grace shot his specimens near Darjeeling; Capt. Boys procured his on the north side of the Gogra Hill, near the pass; and Mr. Hodgson states its habitat to be the central and northern regions of Nepaul. Neither of these gentlemen has given any account of its habits and manners: there is, however, little doubt that they as closely assimilate to those of the European species as the two birds do to each other in form and colouring.

The sexes are so nearly alike that they are scarcely distinguishable.

All the upper surface blue-grey; lores, and a stripe passing from behind the eye down the sides of the neck black; cheeks and chin buffy white, the reddish tint gradually increasing in depth, until, on the flanks, lower part of the abdomen and under tail-coverts it becomes of a deep ferruginous hue; on the under surface of the shoulder is a patch of black, below which is another of white; primaries dark slaty black; two middle tail-feathers grey, with a stripe of white down the basal two-thirds of the centre of each; lateral tail-feathers black, the outer one on each side crossed by an oblique mark of white, and the next with a large spot of white near the tip of the inner web; irides dark brown; bill greyish horn-colour; legs brownish grey.

The figures represent the two sexes of the natural size.



PARUS VENUSTULUS, Swinh.

J. Gould & H. C. Richter del. et lith.

W. H. Ince.

PARUS VENUSTULUS, Swinh.

White-naped Tit.

Parus venustus, Swinh. in Proc. of Zool. Soc., 1870, p. 133.

THERE would appear to be no end to the species of Tits ; for wherever the naturalist may travel over the surface of the Old World and the northern portions of the New, he finds the woods tenanted by some one or more species of this extensive family of birds. It is true, there are none in Australia or in New Zealand, neither, so far as I am aware, are there any in Polynesia or South America. In Australia the *Falcunculi* (of which, however, there are only two species) appear to take the place of the *Pari*.

For the discovery of this new species in China we are indebted to the researches of Mr. Swinhoe ; and the brief notice which I have taken the liberty of extracting from the 'Proceedings of the Zoological Society' for 1870 is all he has placed on record respecting it.

"This charming species occurred throughout the precipitous mountain-gorges between which the great river Yangtze runs, from Kweifoo, in Szechuen, to Ichang, in Hoopih. I found it at the latter place, in company with *Parus minor*. It is a very active little bird, and has quite a peculiar, sibilant note. Its yellow belly recalls to mind the *Parus monticolus* of the Himalayas ; but it is destitute of the black mesial stripe. I could scarcely believe at first that it was a distinct species, as in Formosa we find the *P. insperatus*, which is little more than a race of the *P. monticolus* ; and I expected that a black and yellow Tit from Central China would be either that or the Himalayan bird.

"Head, throat, breast, neck, and back deep black, glossed with bluish purple ; cheeks, sides of the neck, the edges of the central occipital feathers, a large spot on the centre of the nape, and the tips of some of the upper dorsal feathers white, with a faint wash of yellow on the white of the nuchal and dorsal plumes ; lower part of the back, rump, and scapularies fine bluish grey, tinged with yellowish green ; wing-coverts and tertiaries deep black ; the lesser coverts largely tipped with white, the greater and tertiaries with light greenish yellow ; quills dark hair-brown ; secondaries margined with yellowish green, and slightly tipped with white ; primaries yellowish green at their basal margins, then narrowly edged with white and tipped with whitey-brown ; upper tail-coverts deep black, faintly tipped with green ; tail black, deeper and richer on the basal half, edged with greenish grey on the apical portion, and tipped with yellowish ; the fifth rectrix white on the central edge, increasing externally to the first or outermost, which has the greater part of the outer web white ; under surface fine sulphur-yellow, becoming olivaceous on the sides and flanks ; axillaries and carpal edge yellowish white ; inferior edges of the inner webs of the quills white ; bill indigo-black ; irides blackish brown ; legs, toes, and claws deep lead-colour."

The figures are of the natural size.



PARUS CASTANEOVENTRIS, *Could.*

PARUS CASTANEOVENTRIS, *Gould.*

Chestnut-bellied Tit.

Parus castaneiventris, Gould, in Proc. of Zool. Soc. 1862, p. 280.

——— *castaneiventris*, Swinh. in Ibis, 1863, p. 295.

THE present bird and the *Parus varius* of Japan are very nearly allied; but they differ sufficiently to be regarded as distinct species. Both are clothed in colours not usually observed among the Tits; but in structure they are precisely identical, and doubtless they are very similar in the whole of their economy. Like the other members of the genus, the sexes differ but little in outward appearance.

The following are Mr. Swinhoe's notes on this species, as published by him in the volume of 'The Ibis' for 1863 above referred to:—

The *Parus castaneiventris* is "a diminutive representative of the curiously coloured *P. varius* of Japan, but quite distinguishable enough to be noted as a local specific form of the same type. On the island of Formosa it appears to be entirely restricted to the interior mountain-chain, where it is by no means common. I have never found it on the cultivated hills, nor yet in the plantations on the plains; and, strange to say, no species of *Parus* takes its place there. Never having seen the bird alive, I have no note of its habits. It may at once be distinguished from its Japanese ally not only by its much smaller size, but also by the almost entire absence of rufous colouring on the upper part of the back."

A bar across the forehead and cheeks white; crown of the head, back of the neck, throat, and chest jet-black; on the nape a spot of pure white, bounded below by a slight mark of chestnut; mantle, back, shoulders, upper surface, wings, and thighs very deep blue-grey; tail similar to the back, but browner; primaries blackish brown, margined, as are also the secondaries and tertiaries, with deep blue-grey; abdomen and under tail-coverts rich chestnut; bill bluish black; legs and claws leaden grey.

The figures are the size of life.



PARUS ELEGANS. Lesson.

J. Gould & W. Hart del et lith.

Walter, Imp.

PARUS ELEGANS, Lesson.

Elegant Tit.

Parus elegans, Lesson, Traité d'Orn. p. 456 (1831).—Pucheran, Rev. et Mag. de Zool. 1854, p. 68.—Bonaparte, Comptes Rendus, xxxviii. p. 63 (1854).—Blyth, Ibis, 1867, p. 34, note.—Gray, Hand-list of Birds, i. p. 231 (1869).—Sharpe, Transactions of the Linnean Society, 2nd series, Zool. vol. i. (1877).
Parus quadrivittatus, La Fresnaye, Rev. Zool. 1840, p. 129.
Machlolophus elegans, Walden, Transactions of the Zoological Society, vol. ix. p. 199 (1875).

IN the Plate which accompanies the present article ornithologists are presented with a portrait of a Tit which differs somewhat in style of markings from any of the other familiar genera of the *Paridae*. There are several groups of Tits, nearly all of which have been figured in one or other of my ornithological works; and, strange to say, nearly all these groups are represented in the species found in the British Islands. Thus:—our Marsh-Tit (*P. palustris*) is one of several sober-coloured species which are found in the northern parts of both the Old and the New World; our common Blue Tit (*P. cæruleus*) has its representatives in the Mediterranean subregion and in Northern Asia; and the same may be said of the Coal Tit (*P. ater*); the little Bottle-Tit (*P. caudatus*) has several allies in the northern portions of the Old World; and, lastly, the crested species (*Lophophanes cristatus*) has a great many representatives in the Himalayas. It is in the last-named range of mountains that we must look for a bird which will in any way compare with the beautiful species represented in the Plate; and it is probably on account of the characteristic white spotting on the wings that Mr. Blyth was inclined to place it in the genus *Machlolophus* along with some of the Himalayan species. The entire absence, however, of the enormous crest which distinguishes the Philippine bird must be our warrant for not placing it in the genus *Machlolophus*; and in my opinion it ought to stand alone, perhaps to be included in a separate genus, which would also contain the lately described species from Balabac, *Parus amabilis*, Sharpe.

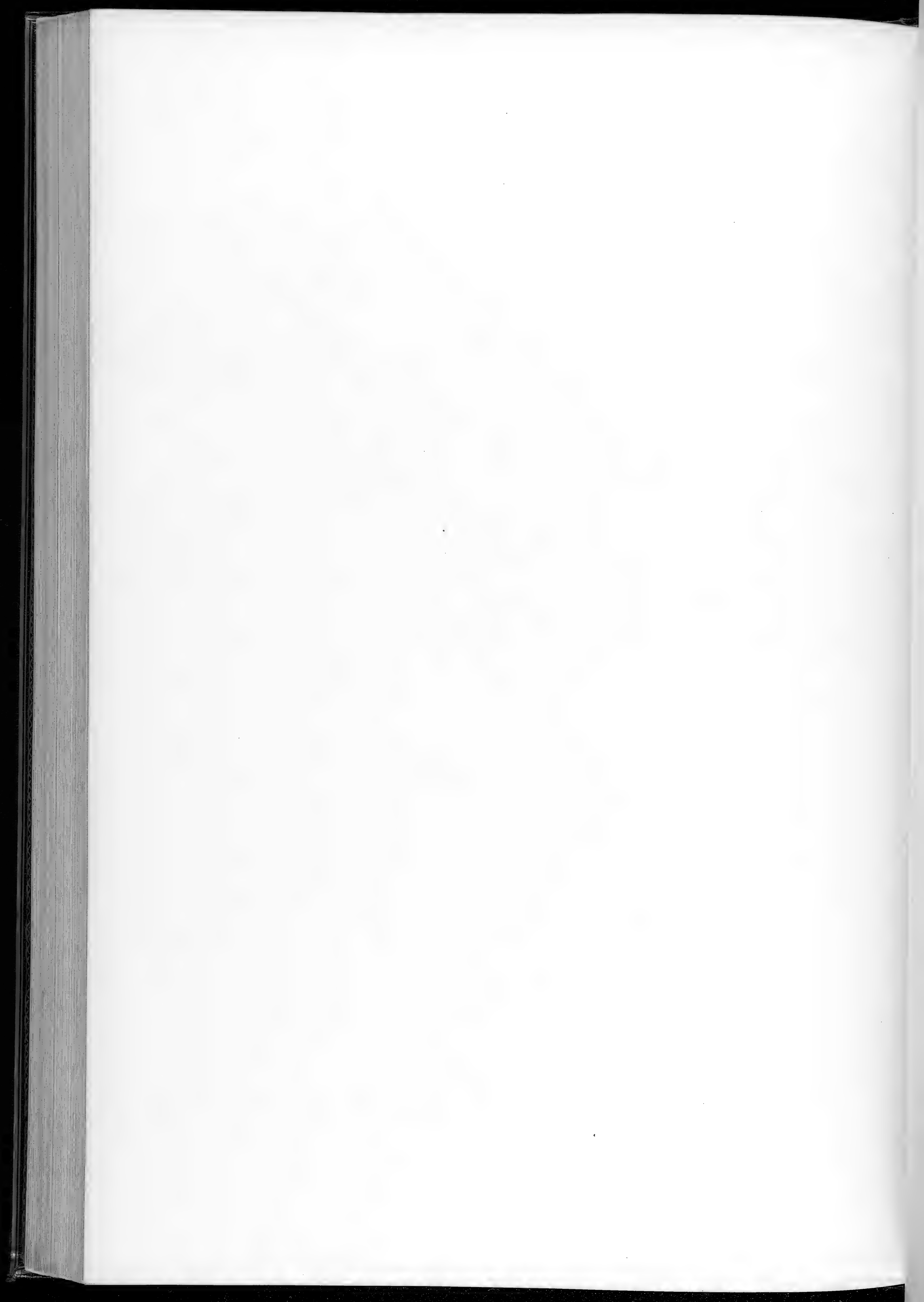
We know nothing of the habits of this pretty species; and until recently we had no knowledge of its exact home, beyond the fact that it was a native of the Philippine archipelago. My own specimen is from Manila; and Dr. Steere procured it in Guimaras and in Palawan.

The following description is taken from my own specimen above mentioned:—

Head and hind neck glossy blue-black, with a patch of sulphur-yellow feathers dividing the hind neck; mantle blue-black, the feathers having all terminal white spots washed with pale greenish; scapulars light yellowish green, with black bases to the feathers; lower back and rump light greenish, the feathers grey at the base; upper tail-coverts glossy blue-black; tail blue-black, tipped with white, the three outer feathers with a white mark about the middle of the outer web; wings blue-black, all the wing-coverts with a large ovate spot of white occupying nearly the terminal half; primaries narrowly edged with white, and the innermost tipped with white, which increases in extent towards the secondaries, where the white terminal spots are as large as on the wing-coverts; lores, region of the eye, cheeks, and entire throat blue-black, the ear-coverts lemon-yellow, continuing in a band down the sides of the neck; rest of under surface of body yellow, the flanks somewhat washed with greenish; under wing-coverts white washed with yellow.

Total length $4\frac{3}{8}$ inches, wing $3\frac{5}{8}$, tail $1\frac{3}{4}$, tarsus $\frac{7}{8}$.

The figures in the Plate are drawn from the foregoing bird, and are life-sized.





MELANOCHEORA SYLTACTA.

J. Gould & H. C. Richter del. et lith.

Walter, imp.

MELANOCHLORA SULTANEA.

Sultan Tit.

- Parus sultaneus*, Hodgs. Ind. Rev., 1836, p. 31.—Gray, Zool. Misc., 1844, p. 83.—Blyth, Journ. Asiat. Soc. Beng., vol. xiii. p. 943.—G. R. Gray, Gen. of Birds, vol. i. p. 192, *Parus*, sp. 41.
—— *flavocristatus*, Lafres. Mag. de Zool., 1837, Ois. pl. 80.—Horsf. in Proc. of Zool. Soc. (1839), p. 162.—Blyth, Journ. Asiat. Soc. Beng., vol. xi. p. 184, and vol. xii. p. 955.—Id. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 102.—Id. in Jard. Cont. to Orn., 1852, p. 48.
Melanochlora Sumatrana, Less. Rev. Zool., 1839, p. 42.
—— *sultaneus* et *flavocristatus*, Bonap. Consp. Gen. Av., tom. i. p. 333.
Parus Sumatranus, Blyth, Journ. Asiat. Soc. Beng., vol. xi. p. 792.
Crataionyx flava et *ater*, Eyt. Proc. of Zool. Soc. (1839), p. 104.
Melanochlora sultanea, Jerd. Birds of Ind. vol. ii. pt. 1. p. 282.—Wald. in Proc. of Zool. Soc. (1866), p. 551.—*Bon tylia pho*, Lepchas (Jerdon).

ORNITHOLOGISTS very generally agree in placing this bird among the *Paridæ*, and Strickland went so far as to say he considered it a typical Tit; but in my opinion we ought first to define the characters of the family, and then determine whether such birds as those forming the genera *Ægithalus* and *Calamophilus* on the one hand, and *Falcunculus* on the other, are members of it; if so, then *Melanochlora* may not be too widely different to be admitted also. For myself, I am sure that a mere glance at the accompanying Plate will be sufficient for even an ordinary observer to perceive how greatly the birds figured thereon differ from the ordinary Tits. The small amount of information that has been recorded respecting their habits and economy throws but little light on the subject: they are said to frequent the tops of large trees, and to move about in flocks; the reed-loving *Calamophilus* is equally gregarious, yet it is by many writers excluded from the *Paridæ*. Besides this difficulty as to the affinities of *Melanochlora*, it is a question whether there are one or two species of this form, or if the Malaccan and Sumatran birds be identical with those from the Himalayas. It will be seen, from the synonyms given above, that I regard them as one and the same; but I must remark that my figures were taken from Himalayan specimens, which are always larger and more beautifully coloured than those from Sumatra.

As is the case with the members of the genus *Falcunculus*, a marked difference occurs in the outward appearance of the sexes, the female having the throat green, while in the male it is steel-blue.

The following short sentences, which are given with due acknowledgment of the sources whence they were obtained, comprise all that has been recorded respecting this showy bird:—

"This magnificent Tit," says Mr. Jerdon, "is only found in the warmer valleys of the Himalayas, extending into Assam, and through Burmah to the Malayan peninsula, and even to Sumatra. Near Darjeeling it is common in the valley of the great Runjeet, about 1200 feet, and thence ascends to about 4000. It frequents the tops of high trees, in small flocks, feeding on insects chiefly, and emits a rather loud note. The Lepchas told me that it breeds in holes in lofty trees, but did not obtain me the nest and eggs."

Mr. Hodgson states that "it is found in the northern regions of the hills, passing into the southern in winter. It explores foliage, and feeds upon the softer arboreal insects, perfect and imperfect, is exceedingly fond of caterpillars, and occasionally takes pulpy berries."

Captain Beavan, who obtained a specimen at Kyodan, Salween River, Burmah, on the 14th of August, 1865, states that the species there "occurs in small parties in heavy tree jungle, and is very noisy." Viscount Walden, in his Notes on the Birds collected by Capt. Beavan in Tenasserim and in the Andaman Islands, remarks, on the above-mentioned specimen, that it is "a young male in immature plumage, the yellow crest hardly extending beyond the nape, and the dark portion of the plumage being of a dull greenish brown," and adds, "Specimens from Penang and Darjeeling do not differ; and the geographically intermediate Tenasserim race seems to be identical with them. I adopt Mr. Hodgson's designation in preference to that of Lafresnaye, on the authority of the date cited by Dr. Jerdon. Sumatran examples have yet to be compared with continental, and, if found to be specifically distinct, will have to take Lafresnaye's title of *flavo-cristatus*. Prince Bonaparte, in his 'Conspectus Generum Avium,' keeps the two separate, but gives no other distinction than that of size, Hodgson's species being, according to him, the smallest. This statement, however, is not quite reliable; for the Prince records them both from the Himalayas." (Proc. of Zool. Soc. 1866, p. 551.)

The male has the forehead, crown, lengthened crest, under wing-coverts, breast, abdomen, flanks, and under tail-coverts pure yellow; the remainder of the plumage black, glossed with green on the throat; irides dark brown; bill and feet greenish black.

The figures represent the two sexes, of the size of life, on the *Epigynium acuminatum*.



PARTS XANTHOCENYS, Vig

PARUS XANTHOGENYS, Vig.

Yellow-cheeked Tit.

Parus xanthogenys, Vigors in Proc. of Comm. of Sci. and Corr. of Zool. Soc., p. 23.—Gould, Cent. of Birds, pl. 29. fig. 1.—Gray and Mitch. Gen. of Birds, vol. i. p. 192.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 103.—Ib. Jard. Contr. to Orn. 1852, p. 50. pl. 87. fig. 1.—Hutton, Journ. Asiat. Soc. Beng., vol. xvii. p. 690.—Bonap. Consp. Gen. Av., p. 228.—Horsf. Cat. of Birds in Mus. East Ind. Comp., p. 370.

——— *apolontus*, Blyth, Journ. Asiat. Soc. Beng., vol. xvi. p. 444.

Machlolophus xanthogenys, Cab. in Mus. Hein., Theil i. p. 91, note.

WHEN I published my "Century of Birds from the Himalaya Mountains," in 1832, this bird was so scarce that few persons in Europe were aware of its existence, and I would fain believe, that the discovery of a Crested Tit, bearing a great similarity to the well-known *Parus major*, excited a degree of interest among ornithologists generally; the recent discovery, then, of at least three other species, similarly ornamented on the head, and each presenting good specific distinctions, must surely not only enhance the interest which attaches to the subject in no ordinary degree, but serve to show how little we have hitherto known of the natural productions of that great country, India. It is the elevated portions of this fine region which appear to be most favourable to the members of this group of birds; of which, rich as it is in species, I doubt not others will reward the researches of the naturalist who may venture to explore Burmah, Siam, the confines of China, and the countries lying still farther to the east. I believe the natural habitat of the present species to be the north-western Himalayas, as it is from thence that all the specimens I have seen have been received, and it was there that the late Hon. F. J. Shore and the late Captain Boys procured their examples.

There appears to be little or no difference in the colouring of the sexes, as is the case with our own *Parus major*, to which, with the exception of the crest, the species bears a general resemblance.

I observe that the white margins and tips of the wing-feathers are much more clearly defined in freshly moulted birds than in those which have borne their feathers for some time.

Captain Hutton informs us that this bird is "common in the hills throughout the year. It breeds in April, in which month a nest, containing four partly-fledged young ones, was found at five thousand feet elevation; it was constructed of moss, hair and feathers, and placed at the bottom of a deep hole in a stump at the foot of an oak-tree. The colour of the eggs was not ascertained."

The late Hon. F. J. Shore "saw a great number of both sexes on the 1st of October, 1828, on the ridge between Paorce and Oölka. It builds a nest of grass in the holes of trees, and usually lays five white eggs, blotched with dirty brownish-white patches."

The late Captain Boys procured examples on the 12th of April, 1842, between Bhurthal and Ranghur, and observed that their eyes were dark brown, their bills black, and their legs bluish-grey.

Lores, crown, crest, space behind the eye, sides of the head, chin, throat and centre of the abdomen glossy-black; superciliary stripe, patch on the nape, cheeks, sides of the neck and breast fine yellow, becoming duller on the flanks; upper surface olive, becoming paler on the rump; wings black, the lesser coverts margined with olive, the greater with a nearly triangular spot of yellowish-white at the tip of each; primaries slaty-grey, with a patch of white at their base, succeeded by another of black; the third, fourth, fifth and sixth edged with white; secondaries grey with darker margins, and tipped with white; tertiaries black, edged with yellowish-white, this colour spreading into a large patch on the outer three-fourths of the tip; tail black, margined with olive; the tips of the whole of the feathers, and the outer web of the external one white; bill black; feet blue-grey.

The Plate represents the two sexes of the size of life, on the *Daphne involucrata* of Dr. Wallich.



PARIS SPILONOTUS, Blyth

J. Gould, and H.C. Richter, del et lith

Hollman & Walton, Imp

PARUS SPILONOTUS, *Blyth*.

Spotted Tit.

Parus spilonotus, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 103.—Ib. Jard. Contr. to Orn. 1852, p. 49. pl. 87. fig. 2.—Bonap. Consp. Gen. Av., p. 228.—Horsf. Cat. of Birds in Mus. East Ind. Comp., vol. i. p. 371.

Machlolophus spilonotus, Cab. Mus. Hein., Theil i. p. 91.

It is certain that this species is a native of Nepaul, if that country be not its exclusive habitat, for it is from thence that all the specimens contained in the Collection at the British Museum, and in that of the East India Company, have been sent by Mr. Hodgson, and which are the only examples I have yet seen.

In point of affinity this species is allied both to the *P. xanthogenys* and the *P. Jerdoni*; but it differs from both in the much deeper yellow of the cheeks and eye-streak, and in the yellow extending across the forehead and forming a band at the base of the bill; the guttations or oblong spotting of the back will, moreover, serve to distinguish it from either of the species above mentioned; the crest is also somewhat larger, and the yellow patch at the nape more conspicuous; the secondaries are not so perceptibly fringed with greyish-white, and the series of grey spots which occur on the shoulders are not found in the other species.

No marked difference occurs in the colouring of the sexes.

At present this species is extremely rare in the collections of Europe.

Lores, cheeks, sides of the neck, superciliary stripe and a patch at the nape rich yellow; crown, crest and remainder of the head glossy black; back and scapularies black, with a streak of dull olive-yellow down the apical portion of each feather; rump and upper tail-coverts dark greyish-olive; wings black, the lesser coverts tipped with grey, the greater with white; base of the primaries margined externally with white for a short distance forming a small patch, and narrowly edged from the middle to the end with white; secondaries narrowly edged with blue-grey, and tipped with white; tail black, the apical three-fourths of the external feather on each side, and the tips of the whole white; chin, chest and centre of the abdomen black; flanks pale yellow, passing into greyish-yellow below; bill black; feet bluish-grey.

The Plate represents both sexes of the size of life on an Indian plant, the name of which is unknown to me.



PARTS II. ROOSE Blyth

PARUS JERDONI, *Blyth*.

Jerdon's Tit.

Parus Jerdoni, Blyth, Journ. Asiat. Soc. Beng., vol. xxv. p. 445.

—— *xanthogenys*, Jerdon in Madras Journ. of Lit. and Sci., vol. xi. p. 7.

MR. BLYTH was quite correct when he described this species as distinct from *Parus xanthogenys* and *P. spilonotus*; for although nearly allied to both those birds, and particularly to the former, it presents several characters by which it may be distinguished: it is more robust in form, has a smaller amount of yellow colouring on the cheeks, and is destitute of the yellow superciliary stripe, in lieu of which a small yellow mark commences some distance behind the eye, and extends backwards to the nape; in *P. xanthogenys*, too, the yellow of the face and under surface predominates over the black, while precisely the reverse occurs in *P. Jerdoni*, where the black mark, occupying the throat, chest and centre of the abdomen, is broad and very conspicuous, and where the yellow is suffused with greyish-olive, and is consequently not so bright; the primaries, secondaries and wing-coverts in *P. Jerdoni* are jet-black, and the spots at their tips are small and white.

My collection contains examples of both sexes, and also a young bird; which latter differs from the adult in the absence of the deep colouring of the centre of the abdomen, that part being dark olive-grey, like the same part in the young *Parus major*, which this bird more nearly equals in size than either *P. xanthogenys* or *P. spilonotus*.

While *Parus xanthogenys* and *P. spilonotus* are inhabitants of the southern slopes of the great Himalayan range, the present species, on the other hand, is a native of the Peninsula of India, where it enjoys a range extending from the latitude of Bombay to that of Cape Comorin; throughout this vast extent of country it is to be found in every district of a hilly character suited to its habits, and particularly in the Neilgherries.

The following brief note by Mr. Jerdon comprises all the information hitherto recorded respecting the bird here figured:—

“This species is also an inhabitant of the Neilgherries, but I only observed it in the warmer parts, about the edges of the hills. I have hitherto observed it in no other locality, but it is mentioned in Mr. Elliott's and Col. Sykes's Catalogues. Food and habits like those of *Parus atriceps*. Irides light brown.”

I cannot conclude this account without recording my obligations to Major Hutt, for the examples of this bird kindly presented to me by him.

Forehead, crown, crest, ear-coverts, sides of the neck, chin, throat, breast and centre of the abdomen glossy jet-black; stripe behind each eye, cheeks, sides of the breast, and a patch on the nape beneath the crest, fine yellow; upper surface olive-green, washed with dark grey on the rump; wings black, the lesser coverts margined with olive-green, the greater coverts with a variable-shaped spot at the tip of each; primaries white at the base, and narrowly edged from the middle to near the end of the external webs, and tipped with white; secondaries tipped, and the two nearest the body broadly edged with white; tail slaty-black, the external web of the outer feather and the tips of the whole white; flanks dull greyish olive-green; bill black; feet bluish-grey.

The young differs in having all the tints much paler, and the throat and chest olive instead of black.

The Plate represents both sexes of the natural size, on the *Ixora rosea* of Dr. Wallich.



PARTS CINEREUS, *Vireo*.

J. Gould and H. C. Richter, del. et lith.

Hullborn & Walton, Imp.

PARUS CINEREUS, Vieill.

Ash-coloured Tit.

La Mésange grise à joue blanche, Le Vaill. Ois. d'Afrique, tom. iii. p. 117. fig. 2. pl. 139. fig. 1.

Parus cinereus, Vieill. Ency. Méth. Orn., part ii. p. 506.—Cabanis, Mus. Hein., p. 92.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 103.—Ib. Journ. Asiat. Soc. Beng., vol. xvi. p. 466.—Jard. Cont. to Orn. 1852, p. 49.—Bonap. Consp. Gen. Av., p. 229, *Parus*, sp. 12.—Layard, Ann. and Mag. Nat. Hist., 2nd ser. vol. xii. p. 267.—Horsf. Cat. of Birds in Mus. East Ind. Comp., vol. i. p. 370.

—— *atriceps*, Horsf. Linn. Trans., vol. xiii. p. 160.—Temm. Pl. Col. 287. fig. 2.—Gray and Mitch. Gen. of Birds, vol. i. p. 192, *Parus*, sp. 16.—Lath. Gen. Hist., vol. vii. p. 257.—Franklin in Proc. of Comm. of Sci. and Corr. of Zool. Soc., Part I. p. 119.—Sykes in Ibid., Part II. p. 92.—McClell. in Proc. of Zool. Soc., Part VII. p. 162.—Jerdon in Madras Journ. of Lit. and Sci., vol. xi. p. 7.—Blyth, Journ. of Asiat. Soc. Beng., vol. xiii. p. 943.

—— *nipalensis*, Hodgs. Ind. Rev. 1838, p. 31.—Gray, Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 72.—Blyth, Journ. of Asiat. Soc. Beng., vol. xi. p. 459, and xii. p. 182.

—— *schistinotus*, Hodgs. in Gray's Zool. Misc. 1844, p. 83.

—— *major*, var. β , Lath. Gen. Hist., vol. vii. p. 247.

Ramgaungra, in Bengalee, Dr. F. Buchanan Hamilton.

Glate-wingko of the Javanese, Dr. Horsfield.

THE Ash-coloured Tit is so different from all the other members of its genus, and has its distinctive characteristics so well defined, that it cannot be mistaken for any other known species. Its nearest allies are the *Parus minor* of China and the *P. major* of Europe; the three species beautifully representing each other in the countries they respectively inhabit.

Mr. Blyth, in his "Catalogue of the Birds contained in the Museum of the Asiatic Society at Calcutta," gives the Himalayas, Central and Southern India, Ceylon, and Java as the habitats of the present species, to which I may add the Valley of Cashmere, as I possess a specimen collected therein by Lord Arthur Hay. It is evident, then, that the bird enjoys a most extensive range. I may remark that all the specimens from Java which have come under my notice are considerably smaller than those from India and Ceylon, but their markings and coloration are so extremely similar, that to regard them as mere local varieties will, in my opinion, be the most philosophic and proper view. Specimens of a Tit collected by Mr. Wallace on the far distant southern island of Lombok also resemble the Javanese specimens so closely, the only difference being a lesser amount of black on the breast, that I cannot but consider them as referable to the same species.

This bird is figured in the drawings of the late Hon. F. J. Shore, as having been procured at Dheru, Nov. 5, 1828.

No perceptible difference occurs in the colouring of the sexes of the *P. cinereus*; but, as is the case with its western prototype, the *Parus major* of Europe, the female is a trifle smaller than her mate.

Dr. Francis Buchanan Hamilton informs us that "in Northern India this bird inhabits bamboo groves, forms its nest in hollow trees, and lives on insects."

"In Southern India," remarks Mr. Jerdon, "I have only seen this bird on the Neilgherries, where it is common in the woods, associating in small families, and feeding on various insects and seeds, to obtain which it occasionally resorts to the gardens. I have seen it once or twice only along the range of Northern Ghauts, but it probably is to be found all along the range of Western Ghauts."

Mr. Layard states that "this Tit is not uncommon in the island of Ceylon: its habits resemble those of our own well-known bird, hunting in small parties, and flitting from tree to tree."

Crown of the head, nape, throat, broad band down each side of the neck, centre of the chest, and an irregular mark down the centre of the abdomen glossy bluish black; cheeks and ear-coverts white; back and scapularies ashy grey, assuming a creamy tint where it meets the black of the nape, and becoming of a more blue-grey on the rump; wing-coverts black, tipped with creamy white, and so broadly margined with blue-grey that the black is not seen when the wing is closed; primaries and secondaries slaty black, the former narrowly edged at the base with blue-grey, and towards the extremity with greyish white, the latter broadly margined and tipped with greyish white; sides of the chest, flanks, and abdomen dull creamy white, washed with blue towards the vent; under surface of the shoulder white; four central tail-feathers dull black margined with blue-grey; the two next on each side dull black, margined with blue-grey and tipped with white; the next on each side white, deeply forked with black at the base, the outer one entirely white; bill bluish black; irides dark brown; feet blackish blue.

The figures are the size of life. The plant is the *Liriodendron grandiflora* of Roxburgh, copied from one of the numerous drawings of plants contained in the Library of the Honourable East India Company.



PARUS MINOR, Temm & Schleg

J. Gould and H. C. Fischer, del et lith

H. Almond & W. Allen, Imp

PARUS MINOR, *Temm. et Schleg.*

Chinese Tit.

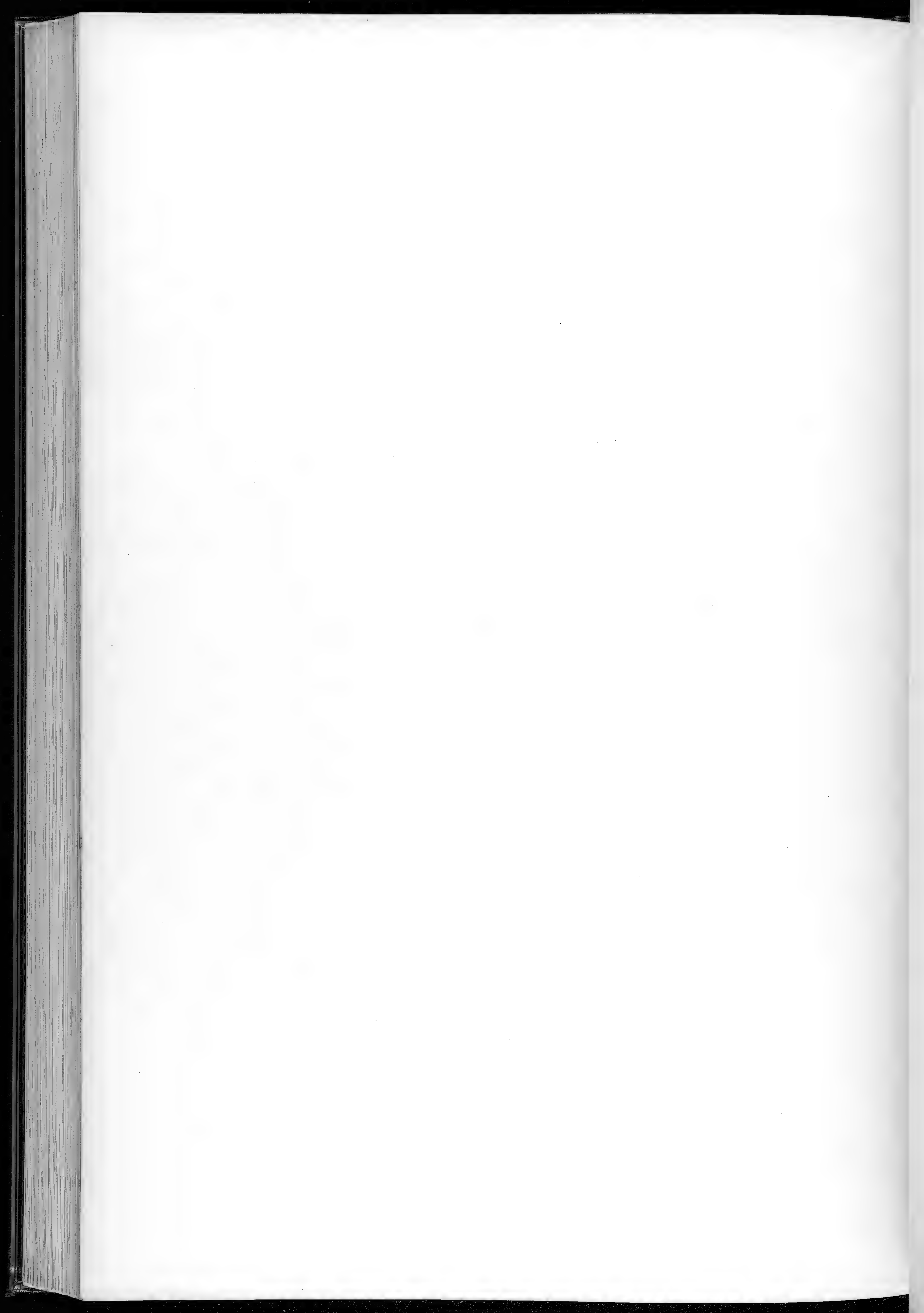
Parus minor, Temm. and Schleg. Faun. Japonica, Aves, p. 70. pl. xxxiii.—Bonap. Consp. Gen. Av., p. 229, *Parus*, sp. 9.

OVER what extent of habitat this well-defined species may range, will be for future ornithologists to determine, when the great country of China has become more open to scientific investigation ; at present we only know that the bird is a native of the districts in the neighbourhood of Shanghai and the Island of Japan, from both of which countries I possess examples. Although somewhat smaller in size, it is evidently the representative in China of the *Parus major* of Europe, from which it is distinguished by the total absence of yellow on the flanks, and the greater amount of white on the outer tail-feathers, as it is from the *Parus cinereus* of India by its yellow nape. MM. Temminck and Schlegel have given figures of this bird in the volume "Aves" of Siebold's interesting work on the Fauna of Japan, but afford us no information as to its habits and economy ; we may infer, however, that they resemble those of its near allies, which, as is well known, obtain their insect food among the branches of thickly-foliaged trees ; that they are pert, restless, and active in their manners, and stationary or non-migratory.

The sexes appear to assimilate most closely in their colouring, which may be thus described :—

Crown of the head, nape, throat, band on the sides of the neck, chest, and an irregular mark down the centre of the abdomen glossy bluish black ; cheeks and ear-coverts white ; centre of the back yellowish olive, separated from the black of the nape by a mark of white ; scapularies, lower part of the back, and upper tail-coverts blue-grey ; wing-coverts black, tipped with white, and margined with blue-grey ; primaries and secondaries slaty black, the former narrowly margined at the base with blue-grey, and towards the apex with white, the latter more broadly with dull white ; sides of the chest and flanks creamy ; tail slaty black, margined with blue-grey, the outer feather white, margined internally with brown, and the next on each side with a wedge-shaped mark of white at the tip ; bill bluish black ; irides dark brown ; feet blackish blue.

The figures are the size of life. The plant is a species of *Uvularia*, copied from one of the fine collections of botanical drawings at the East India House.





PARUS MONTICOLUS, *Vig.*

Mountain Tit.

Parus monticolus, Vig. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., Part I. p. 22.—Gould, Cent. of Birds, pl. xxix. fig. 2.—Hodgs. in Gray's Zool. Misc. 1844, p. 83.—Gray, Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 72.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 103.—Blyth in Jard. Cont. to Orn. 1852, p. 49.—Horsf. Cat. of Birds in Mus. East Ind. Comp., p. 370.

——— *monticola*, Gray and Mitch. Gen. of Birds, vol. i. p. 192, *Parus*, sp. 2.—Bonap. Consp. Gen. Av., p. 229, *Parus*, sp. 10.

THE *Parus monticolus* is one of the prettiest and most ornamental of the section of the great family of Tits to which it pertains. In the general style of its colouring it much resembles the *Parus major* of Europe; but its smaller size, and the presence of a double fascia across the wings, formed by the white tipping of the greater and lesser wing-coverts, will serve to distinguish it from that species.

The native habitat of the Mountain Tit is the southern slopes of the Himalayas, over which Mr. Blyth states "it is very generally distributed; and to which it appears to be confined, so far as has hitherto been observed."

The late Captain Boys mentions that he met with it on the southern side of Gogra Hill, near the pass, on the 14th of June, 1842, and adds that its food consists of buds and fruit.

A figure of this species occurs among the drawings of the late Hon. F. J. Shore, accompanied by the following brief note: "I saw a great number on the ridge between Pāoree and Oölka, Oct. 1, 1828."

The *Parus monticolus* has been long known to science, being one of the species comprised in my "Century of Birds from the Himalaya Mountains," published in 1832.

The sexes, as usual, do not differ in colour, and but little in size.

Crown of the head, nape, stripe down the sides of the neck, throat, a large patch on the centre of the chest, and a small irregular mark down the centre of the abdomen glossy bluish black; cheeks and ear-coverts white; back olive-yellow, separated from the black of the nape by a patch of white; rump and upper tail-coverts grey; wings slaty black, the lesser coverts margined with blue-grey, with the exception of the lower row of feathers, which are tipped with white; greater coverts margined with blue-grey and tipped with white, the tipping of the last row of the lesser and greater coverts forming two bands across the wings; three outermost primaries narrowly margined with bluish white, the remainder with blue and slightly tipped with white; secondaries broadly margined and tipped with bluish white; sides of the chest and flanks fine yellow, brightest where it meets the black of the breast, and becoming of a greenish cast towards the vent; tail slaty black, all but the outer feather of each side margined with blue-grey, and tipped with white very slightly on the central feathers, the extent increasing as the feathers recede from the centre; outer feather on each side margined externally and largely tipped with white; bill bluish black; irides dark brown; feet blackish blue.

The figures are of the natural size.





PARUS TURDUS, *Hedys*

J. Gould and H. C. Richter del. et lith.

Hallman and W. Allen, imp.

PARUS DICHROUS, *Hodgs.*

Grey Tit.

Parus dichrous, Hodgs. in Gray's Zool. Misc. 1844, p. 83.—Ib. Journ. Asiat. Soc. Beng., vol. xiii. p. 943.—Ib. Ann. and Mag. Nat. Hist., vol. xv. p. 326.—Gray, List of Spec. and Draw. of Mamm. and Birds pres. to Brit. Mus. by B. H. Hodgson, Esq., p. 73.—Gray and Mitch. Gen. of Birds, vol. i. p. 192.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 104.—Ib. in Jard. Cont. to Orn. 1852, p. 51.—Bonap. Consp. Gen. Av., p. 229.—Horsf. and Moore, Cat. of Birds in Mus. East Ind. Comp., vol. i. p. 372.

NUMEROUS in species and diversified in form are the members of the family *Paridae* which tenant the great forests of the Himalaya. Of these, probably the most rare in our European collections is the *Parus dichrous* of Mr. Hodgson: examples, it is true, are to be found in the National Museum and in that at the East India House; but, besides these, I have never seen any others. At a first view, there appears to be much similarity between this bird and the *Parus bicolor* of North America; but they are quite distinct, and must be regarded as the true representatives of each other in the countries they respectively inhabit; for, although I have figured the *Parus bicolor* in my work on the "Birds of Europe" as a native of Russia, I freely admit that I may have figured it without sufficient caution on my part as to the certainty of its having been killed in that country. Time erases from the memory circumstances which we should be pleased to recall, and I am unable to recollect whence I received the information which induced me to give this bird a place in the European Fauna; and a doubt now arises in my mind as to the possibility of my having seen Siberian specimens of a bird either like the one here figured, or an allied species; such might possibly have been the case. One thing, however, is certain, namely that the bird figured by me in the "Birds of Europe" is the true *Parus bicolor*, probably drawn from an American specimen.

All the specimens of the *Parus dichrous* that have been sent to Europe were collected in Nepal by B. H. Hodgson, Esq.

Crest, head, all the upper surface, wings, and tail light ashy brown; face and all the under surface buff; bill and legs bluish grey.

The figures are of the natural size. The plant is the *Dendrobium Devonianum*.



PARUS RUBIDIVENTRIS, *Blyth*

J. Gould and H. C. Richter, del. et lith.

Hellmuth & Walton, Imp.

PARUS RUBIDIVENTRIS, *Blyth*.

Rufous-bellied Tit.

- Parus rubidiventris*, Blyth, Journ. Asiat. Soc. Beng., vol. xvi. p. 445.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 104.—Ib. in Jard. Cont. to Orn. 1852, p. 50, pl. fig. 1.—Gray and Mitch., Gen. of Birds, vol. iii. App. p. 9. App. to p. 192.—Horsf. and Moore, Cat. of Birds in Mus. East Ind. Comp. vol. i. p. 372.
- *melanolophus*, Hodgs. in Gray's Zool. Misc. 1844, p. 83.—Gray, Cat. of Spec. and Draw. of Mamm. and Birds pres. to Brit. Mus. by B. H. Hodgson, Esq., p. 73.
- Machlolophus rubidiventris*, Cabanis, Mus. Hein. *Oscines*, p. 91, note.
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Of the habits, manners, and economy of this species of Tit, nothing whatever is known; not so, however, with regard to its habitat. Like so many of the rarer birds in our museums, it is a native of Nepal and the southern face of the Himalayan range. Specimens collected by B. H. Hodgson, Esq., grace the Collections of the British Museum and of the East India House.

In Sir William Jardine's "Contributions to Ornithology" for 1852 will be found a figure of this bird, from drawings made, I believe, by Mr. Blyth of Calcutta, who had the honour of giving it a name.

The *Parus rubidiventris* may be distinguished from all its allies by the bright rusty-red colouring of its abdomen, which colour is much richer in some specimens than in others, and occasionally is almost absent, its place being supplied by a light rufous grey. It is just possible that the sexes may present some difference in the colouring of the under surface, or that age may influence its hue; but at present this is unknown. At some future time we may acquire a knowledge of the causes which occasion these differences, not only in this, but in all the other numerous and rare species which tenant the regions of the Himalayas; at present we must content ourselves with the knowledge that the species exist, and leave it for some future natural historian to record their habits, manners, and changes.

Head and neck black, with the exception of the cheeks and ear-coverts and a stripe on the nape, which are white; upper surface, wings, and tail ashy grey; the primaries and secondaries narrowly edged with blue-grey; upper and under tail-coverts, under wing-coverts, and under surface of the body washed with rusty red; bill black; legs and feet leaden grey.

The figures are of the natural size.





PARTS RIFONTICHALIS, *Blyth*

PARUS RUFONUCHALIS, *Blyth*.

Rufous-naped Tit.

Parus rufonuchalis, Blyth, Journ. Asiat. Soc. Beng., vol. xviii. p. 810.—Ib. in Jard. Cont. to Orn. 1852, p. 50.

ALTHOUGH this species is very nearly allied to the *Parus rubidiventris*, it possesses several characters which clearly distinguish it from that bird: in the first place, it is much larger in size; in the next, the nuchal spot is only white on its upper part, the lower portion being strongly tinged with rufous; and thirdly, I have never seen an example with any tinge even of rufous on the abdomen. Mr. Blyth, who appears to be the only person in India who has noticed it, gives the Tyne range of mountains north of Simla as its habitat.

Neither the British Museum Collection nor that at the East India House comprise examples of this bird; but I have for many years had specimens in my own, and I find one in that of Dr. John Murray; this latter example was procured near Agra, and my own to the northward of that locality. The bird evidently does not inhabit Nepal; for if it did, it would not have escaped the researches of Mr. Hodgson, who has made the most perfect collections possible both of the quadrupeds and birds of that country, and to whom the science of natural history is very greatly indebted.

Head, throat, and breast deep black; cheeks and ear-coverts white; upper half of the nuchal mark white, lower half buff; axillæ and under tail-coverts rufous; remainder of the plumage ashy grey; the primaries and secondaries margined with blue-grey; bill black; legs and feet leaden grey.

The figures are of the size of life.



PARUS MELANOLOPHUS, *Vigors*

PARUS MELANOLOPHUS, *Vigors.*

Black-crested Tit.

Parus melanolophus, Vig. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part i. p. 22.—Gould, Cent. of Birds from Him. Mount., pl. 30. fig. 2.—Jerd. in Madras Journ. of Lit. and Sci., vol. xi. p. 8.—Gray and Mitch. Gen. of Birds, vol. i. p. 192.—Blyth, Journ. of Asiat. Soc. Beng., vol. xvi. p. 446.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 104.—Bonap. Consp. Gen. Av., p. 228.—Blyth in Jard. Cont. to Orn. 1852, p. 50, pl. fig. 2.—Horsf. and Moore, Cat. of Birds in Mus. East Ind. Comp., vol. i. p. 372.—Gray, Cat. of Spec. and Draw. of Mamm. and Birds pres. to Brit. Mus. by B. H. Hodgson, Esq., p. 73.

Machlolophus melanolophus, Cabanis, Mus. Hein. *Oscines*, p. 91, note.

THIS is the least species yet discovered of that group of small Indian Tits to which M. Cabanis of Berlin has given the subgeneric title of *Machlolophus*; it is also one of the oldest known, having been described by the late Mr. Vigors in the "Proceedings of the Committee of Science and Correspondence of the Zoological Society of London," prior to its being figured in my "Century of Birds from the Himalayan Mountains," which work was completed in the year 1832, now twenty-seven years ago. The large collection of birds which came into my possession in 1830, of which it formed a part, was obtained near Simla, at the foot of the Himalayas; Capt. Boys killed it at Ramnic, and Mr. Blyth has received it from Masuri; some of the specimens at the East India House are labelled "Simla," and others "Cabul;" and Mr. Hodgson states that it inhabits "Nepal, Cachar, and is rare in the central region;" consequently the Western and North-western Himalayas are the true habitats of the species. Besides the figure given in my own work above-mentioned, another will be found in Sir William Jardine's "Contributions to Ornithology" for 1852.

It will be observed that the greater and lesser wing-coverts of one of my figures have a white spot at the tip of each, while in the other the spots are buff. It would be interesting to know if this difference in their colouring be indicative of a difference of sex, or of maturity and immaturity.

Crown of the head and crest glossy black; throat and breast deep black; cheeks and ear-coverts and a spot at the nape white; upper surface and abdomen slate-grey; wing-coverts dark slate-grey, with a spot of white at the tip of each; wings and tail grey, the primaries margined with paler grey, and the two innermost of the secondaries with a small spot of white at the tip of each; under wing-coverts greyish white; flanks rufous; irides dark brown; bill black; feet leaden grey.

The figures are the size of life.





LEPTOPECILE SOPHIAE, Cab.

J. Gould & W. Hart del. et lith.

Walter imp.

LEPTOPŒCILE SOPHIÆ, *Severtz.*

Yarkand Tit.

Leptopœcile sophiæ, Severtz., Turkest. Jevotn. pp. 66-135, pl. viii. figs. 8, 9 (1873).—Dresser, Ibis, 1876, p. 171.

Stoliczkana stoliczkæ, Hume, S. F. ii. p. 513 (1874).

THIS very curious little bird appears to be the representative of a genus peculiar to Central Asia, as it is at present known to occur only in Turkestan and Yarkand. In the former country it was discovered by Dr. Severtzoff, whose original essay having been for the most part translated into English by Mr. Dresser, to the great advantage of students, I do not think I can do better than reproduce the remarks of the celebrated Russian traveller, especially as full details of the species are given therein. For a more elaborate description I must refer my readers to Mr. Hume's paper (*l. c.*). In naming it after Dr. Stoliczka, who lost his life during the last expedition to Yarkand, Mr. Hume endeavoured to perpetuate the name of this indefatigable worker in the field of science; but, as will be seen, he had been anticipated by Severtzoff. He writes:—"The form, the coloration, and the loose fluffy plumage, together with the comparatively elongated and much-rounded or graduated tail, recall *Orites*; but the bill is slenderer than in any known Tit; it is, however, entire at the tip, and very hard and very sharp-pointed. I think that we must accept this as a sort of link between the Warblers and the Long-tailed Tits."

Dr. Severtzoff's notes are as follows:—"In form this bird approaches the Tits, but in habits and in the form of the bill, as well as in the sexes being different, it differs from these; and I have therefore deemed it best to separate it generically. The characteristics are as follows: bill slender, broader than high, compressed towards the end; nostrils narrow; bill half covered with a membrane; at the base of the upper mandible are a few feathers, which are downy at the base and hairy towards the point; legs stout; tarsus long, coarsely scutellated; hind toe large, with a long arched claw, other toes also long, but the claws are short; wings short and broad; tail long and much graduated, composed of twelve feathers; tarsus with three long and then four short broad scales; fourth and fifth rectrices longest, the two central ones $1''$ shorter, and the outer ones $3''$ to $3\frac{1}{2}''$ shorter; first primary short, twice as long as the coverts; second quill shorter than the tenth, $3=9$, $4=10$, $5=6$, the last two the longest. *Male*. Crown bright brownish chestnut, glossed with violet; a broad yellowish white stripe passes over the eyes; back greyish brown, washed with bluish; rump rich violet-blue; cheeks, sides of the neck and of the body, and throat bright blue, with a violet or greenish gloss; centre of the abdomen brownish yellow; under tail-coverts short and downy, brownish, tipped with violet; wings blackish brown, with light brown margins to the feathers; rectrices nearly black, with bluish green edges, outer web of outer rectrix white; iris dark brown; beak and legs black. *Female*. Greyish, the lower flanks and rump violet-blue; nape light brown, the superciliary stripe narrower than in the male; cheeks and shoulders greyish brown; throat, breast, and belly light brownish yellow; sides light brown, the feathers near the vent tipped with blue; crissum brownish; wings blackish brown, with greyish brown margins to the feathers; tail black, tipped with brown, the outer feathers externally margined with white. Male—total length $4'' 9'''$, wing $2'' 1\frac{1}{2}'''$, outer tail-feathers $1'' 8\frac{1}{2}'''$, culmen $3\frac{1}{2}'''$. Female—total length $4'' 8'''$, extent $6'' 1'''$, wing $2''$, tail $2'' 1'''$, outer tail-feathers $1'' 8\frac{1}{2}'''$. This bird was met with in the pine-woods near Issik-kul, where it was seen amongst the branches of the trees."

I have only to add my acknowledgments to Captain Biddulph for lending me the male specimen from which the figures in the Plate are drawn, these being of the size of life.



PSALTRIA EXILIS, Temm.

J. Gould and H. C. Richter, del. et lith.

Hullmandel & Walton, Imp.

PSALTRIA EXILIS, Temm.

Exile Tit.

Psaltia exilis, Temm. Pl. Col. 600. fig. 4.

Parus exilis, Gray and Mitch. Gen. of Birds, vol. i. p. 192, *Parus*, sp. 47.

THIS modestly coloured little bird has hitherto been only known by the figure published by M. Temminck in his "Planches Coloriées," and referred to above, specimens being extremely rare in all our collections. Its first describer, M. Temminck, was evidently undecided as to what group it really belonged, and certainly did not conceive that it pertained to the Tits (*Paridae*); such, however, is its true situation, since it forms one of a small and peculiar section of that family, which has, as yet, been only found in India, and of which the well-known *P. erythrocephala*, of the Himalaya Mountains, may be cited as an example; I have, therefore, no alternative but to adopt M. Temminck's early generic name of *Psaltia*, in lieu of that of *Ægithaliscus* of Cabanis.

I have two specimens of this little bird in my own collection, one of which was obtained in Sumatra, the other in Java; and although I have no positive evidence that the species inhabits the Malayan peninsula, I should think there is every probability of its being found there. Of its habits and economy, or its history, nothing is at present known.

No material difference occurs in the colouring of my specimens, and, judging by analogy, we may presume that the sexes are very similar in plumage.

Head and back of the neck light brown; shoulders and back grey; wings and tail brown, with lighter edges; throat bluish-grey; across the breast a faint gorget of buffy-white; under surface cream-colour, washed with grey on the flanks; bill brown; feet fleshy-brown.

The figures are of the natural size. The accompanying plant was copied from a drawing kindly lent to me by Dr. Horsfield, and represents one of the numerous discoveries made by him in Java.



PSALTRIA ERYTHROCEPHALA.

A Gould and R.C. Brehmer del. et lith.

Holburn and J. Waller Imp.

PSALTRIA ERYTHROCEPHALA.

Red-headed Tit.

Parus erythrocephalus, Vigors in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part i. p. 22.—Gould's Century of Birds, pl. 30. fig. 1.—Gray, Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 73.—Gray and Mitch. Gen. of Birds, vol. i. p. 192, *Parus*, sp. 44.—Hutton, Journ. Asiat. Soc. Beng., vol. xvii. pt. 2. p. 689.

Orites erythrocephalus, Blyth, Journ. Asiat. Soc. Beng., vol. xiii. p. 943.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 104.—Jard. Cont. to Orn. 1852, p. 51.—Horsf. Cat. of Birds in Mus. East Ind. Comp., vol. i. p. 374.

Poecila erythrocephalus, Bonap. Consp. Gen. Av., p. 230, *Poecila*, sp. 15.

Ægithaliscus erythrocephalus, Cab. Mus. Hein. Oscines, p. 90.

SINCE the publication of my "Century of Birds," in which this bird was first figured, from the only specimen that had then reached this country, so many examples have been sent to Europe, that there are few collections in which it may not now be found. It is a native of the Sub-Himalayan range, over which, I believe, it is very generally dispersed.

Captain Hutton states that it is "common at Mussooree and in the hills generally throughout the year. It breeds in April and May. The situation chosen is various, as one taken in the former month at Mussooree, at seven thousand feet elevation, was placed on the side of a bank among overhanging coarse grass, while another taken in the latter month, at five thousand feet, was built among some ivy twining round a tree, and at least fourteen feet from the ground. The nest is in shape a round ball, with a small lateral entrance, and is composed of green mosses, warmly lined with feathers. The eggs are five in number, white with a pinkish tinge, and sparingly sprinkled with lilac spots or specks, and having a wide defined lilac ring at the larger end; diameter $\frac{8}{16}$ in. \times $\frac{6}{16}$ in."

The very trifling difference observable in the colouring of the numerous specimens I have examined, induces the belief that the sexes are so similar as scarcely to be distinguished.

Forehead, crown and nape dark rusty-red; lores, space around the eye, ear-coverts and sides of the neck deep black; from the posterior upper angle of the eye a conspicuous stripe of white passes down between the red of the nape and the black of the side of the neck; chin and sides of the throat white; in the centre of the throat a large patch of black; lower part of the throat buffy-white, passing into the pale rufous of the abdomen; back, wing- and tail-coverts grey; primaries and secondaries greyish-brown, margined internally with buffy-white; tail dark greyish-brown, the outer feather margined and tipped with white, the two next on each side obliquely tipped with white; bill black; legs and feet yellowish flesh-colour.

The figures are of the natural size. The plant is the *Andromeda ovalifolia*, Wall.



PSALTRIA CONTINUA, Gould.

J. Gould and H. C. Richter del. et lith.

Hollman & Wulsten. Imp.

PSALTRIA CONCINNA, *Gould.*

Elegant Tit.

THE only specimen of this elegant little Tit I have seen is in the collection of T. C. Eyton, Esq., author of "A Monograph of the *Anatidæ*," and many other valuable contributions to ornithological science; one of the few private gentlemen who has devoted much of his time and fortune to the cultivation of this department of human knowledge, and who has liberally supported every work of merit pertaining to his favourite study. The true habitat of the *Psaltria concinna* is China, and the specimen referred to was killed at Chusan: it is most nearly allied to the *P. erythrocephala*, but differs from that bird in its smaller size, in the paler colour of the crown, in the absence of the post-superciliary stripe, in the black of the throat being entirely surrounded with white, and in the richer rusty-red of the flanks.

Of the habits, manners and economy of this pretty species, I regret to say, nothing is at present known; they doubtless closely assimilate to those of its near ally, the *P. erythrocephala*; but here again, unhappily, little has been recorded.

Forehead, crown and nape pale rust-colour; lores, space around the eye and the sides of the neck black; chin and throat white, with a large spot of deep black in the centre; back, wing- and tail-coverts dark grey; primaries dark brown, margined externally at the base with silvery-grey, and internally with buffy-white; tail greyish-brown, the outer feather margined externally and tipped with white, the two next on each side with a lengthened oblique streak of white on the outer side of the tip; breast and flanks rich rusty-red; centre of the abdomen white; bill black; feet yellowish flesh-colour.

The figures are of the natural size.



PSALTRIA ? LEUCOGENYS.

J. Gould and H. C. Richter, del. et lith.

Hallman del. & Walton Imp.

PSALTRIA? LEUCOGENYS.

Afghan Tit.

Parus leucogenys, Moore in Proc. of Zool. Soc. 1854, p.

Orites leucogenys, Horsf. Cat. of Birds in Mus. East Ind. Comp., vol. i. p. 374.

Two examples of this Tit, the only specimens I have seen, grace the collection of the Honourable East India Company; they were procured by Mr. W. Griffith in Afghanistan. It departs in some slight degree from the typical species of the form with which I have associated it, in having a somewhat more squarely-formed tail, and a more thick and lax plumage; still, the structure of its bill and feet clearly indicate, in my opinion, that it is more nearly allied to the members of the genus *Psaltria* than to those of any other.

From Dr. Horsfield's "Catalogue of the Birds in the Museum of the East India Company," I learn that, according to Mr. Griffith's MS. notes, it is "found in pairs in the woods above Balu Chughur, at four thousand feet elevation;" and this is all that has yet been recorded respecting it.

Forehead and crown obscure reddish-brown; lores, a broad streak passing over the eye to the occiput, chin and throat jet-black; cheeks, ear-coverts and sides of the neck creamy-white; upper surface brownish olive-grey, with a pinkish or buffy tinge on the rump; wings greyish-brown, margined with a silvery hue; spurious wing brownish-black; tail pale brown, becoming darker towards the tip, the outer feather margined and tipped with white, and the next on each side obliquely tipped with white; under surface vinous-brown; bill black; feet yellowish-brown.

The figures are of the natural size.



ACANTHIPARIS NIVEOGULARIS, Gould

J. Gould and H. C. Richter del. et lith.

Hallgren del. & Walter Imp.

ACANTHIPARUS NIVEOGULARIS, *Gould.*

White-throated Tit.

Parus niveogularis, Gould MS., Moore in Proc. of Zool. Soc., June 27, 1854.

I HAVE searched in vain throughout the various ornithological works for the name and description of this species of Tit, two specimens of which are in my own collection, and which are said to have been procured in Northern India, but in what particular province I have not been able to ascertain; and I publish it thus early in the "Birds of Asia" with the twofold view of eliciting information respecting its history, and of making it known to science. It is remarkably different from every other member of the *Paridæ* I have seen, not only in its colouring, but also in its structure: in the tints of its plumage and in its long tail, it offers an alliance to the members of the genus *Mecistura*, but it differs from them remarkably in the much greater length of its wings, and in its longer and more spine-like bill; these differences in structure are doubtless accompanied by a corresponding variation in its habits and manners, with which, however, we are unfortunately not acquainted.

Although opposed to any unnecessary increase in the number of genera, I find I cannot with propriety associate this bird with any of the minor groups into which the Tits have been subdivided. I am therefore constrained to make it the type of a new genus, with the appellation of *Acanthiparus*, a term which has been suggested by the lengthened and pointed form of the bill.

Forehead, centre of the crown, chin, sides of the neck and chest white; lores and sides of the head black; hinder part of the crown and the nape brown; ear-coverts, which are very long, pale brown edged with a still lighter hue; upper surface brownish-grey; wings brown; primaries margined with silvery-grey; tail greyish-brown, the three outer feathers narrowly margined with white, the white being gradually less extensive on the second and third than on the first; under surface vinous-brown, separated from the white of the breast by a narrow crescentic band of a darker hue; bill black; feet reddish flesh-colour.

The figures are of the natural size. The plant is the *Cornus capitata*, Wall.





ACANTHIPARUS ? JOUSCHISTOS.

J. Gould and H.C. Richter, del. et lith.

Hillman and W. Walton, imp.

ACANTHIPARUS: JOUSCHISTOS.

Chestnut-breasted Tit.

- Parus Jouschistos*, Hodgs. Gray's Zool. Misc. (1844) p. 943.—Ib. in Ann. and Mag. of Nat. Hist., vol. xv. p. 326.—Gray, Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 72.—Gray and Mitch. Gen. of Birds, vol. i. p. 192, *Parus*, sp. 45.—Blyth, Journ. Asiat. Soc. Beng., vol. xiii. p. 943.—Ib. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 104.—Ib. in Jard. Cont. to Orn. 1852, p. 51.
- Poecila jouschistos*, Bonap. Consp. Gen. Av., p. 230, *Poecila*, sp. 14.
- Orites* (?) *jouschistos*, Horsf. Cat. of Birds in Mus. East Ind. Comp., vol. i. p. 375.
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THE native country of this singularly coloured species of Tit is Nepaul, and most, if not all the specimens that have been sent to this country have been received through the medium of Mr. Hodgson, its first describer: would that this gentleman had recorded something respecting its habits and economy, as it may be supposed that they are somewhat peculiar, since, in structure and colour, it differs from most of its congeners; not greatly it is true, but still sufficiently so to render it very puzzling as to which group it may be properly assigned. Mr. Blyth, who has also had it under review, states, that "by its lengthened spread tail, it approximates the *Orites* division;" in the lengthened form of its bill, however, and in the mark on the forehead, it more nearly approximates to *Acanthiparus*, and in that genus I have, therefore, provisionally placed it.

Judging from the examples I have had opportunities of examining, there appears to be little or no difference in the colouring of the sexes. Specimens of this rare bird are contained in the collections at the British Museum and the East India House.

Forehead rusty-red, passing into pale rufous on the centre of the crown; lores, sides of the head, and nape black; back and wings grey, the latter inclining to brown; tail dark brown, the three outer feathers margined with greyish-white, the white being gradually less extensive on the second and third than on the first; cheeks and sides of the neck reddish-chestnut; chin black; throat silvery-grey; all the under surface chestnut-red; bill black; feet reddish flesh-colour.

The figures are of the natural size. The plant is the *Roydsia suaveolens*, Roxb.





MEGISTORA GLAUCOTULARIS, Gould

Gould and W. C. Richter del. et lith.

Hollenandel & Watts sculp. Imp.

MECISTURA GLAUCOGULARIS, *Gould.*

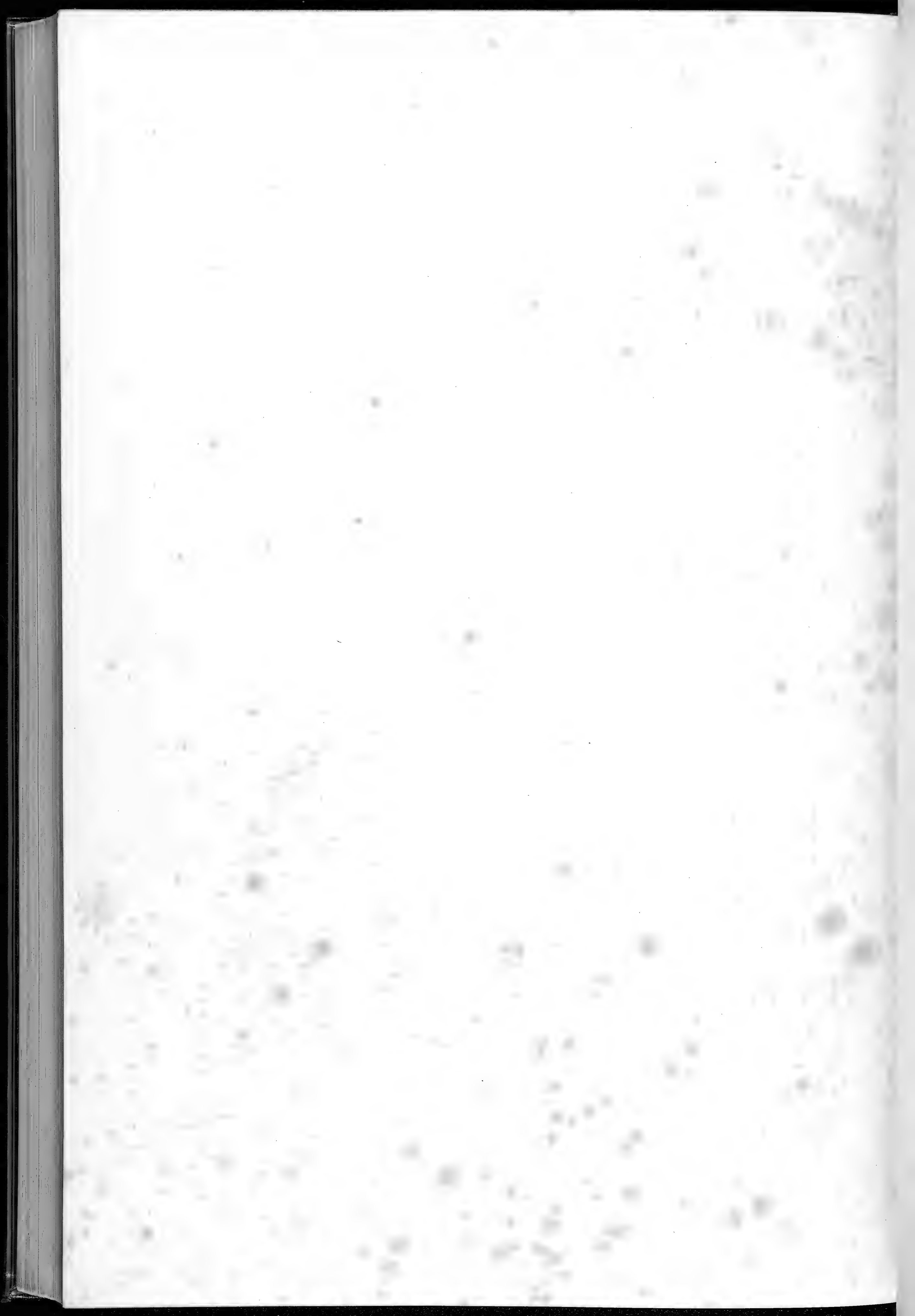
Silvery-throated Tit.

Parus glaucogularis, Gould MS., Moore in Proc. of Zool. Soc., June 27, 1854.

EVERY ornithologist is familiar with the elegant Long-tailed Tit (*Mecistura caudata*) of the British Islands and the continent of Europe, and every schoolboy is equally acquainted with the charming bottle-shaped nest it constructs. This well-known species is represented in Japan by the *Mecistura trivirgata*, and I have now great pleasure in recording a third typical species of the same form from China, under the name of *Mecistura glaucogularis*. The ornithology of the latter country has hitherto been almost unknown, but, from the somewhat greater facilities for investigation we now possess, it is gradually becoming unfolded to us; and we find that while it comprises numerous forms peculiar to itself, many others also occur which are very similar to those with which we are surrounded in our own island; in some cases the species are strictly identical, while in others, as in the present instance, though nearly allied they are quite distinct. I believe the specimen in my collection, from which the figure was taken, was shot at Shanghai; of its habits and economy I am unable to give any account whatever, but they doubtless closely assimilate to those of its European and Japanese representatives.

Lores and a narrow band across the forehead buffy-white; crown of the head black, with a patch of vinous-grey from the centre to the occiput; ear-coverts light brown; upper surface dark grey; rump rich vinous-grey; wings blackish-brown, margined externally with hoary; tail black, the outer feather margined externally and tipped with white; the three next on each side are obliquely tipped with white, the white becoming less extensive as the feathers approach the centre; in the middle of the throat a round patch of silvery-grey; remainder of the under surface pale vinous-grey, becoming richer on the flanks; bill and feet black.

The figures are of the natural size.





ÆGITHALUS CONSOBRINUS, *Swinh.*

J. Gould & W. Hart del. et lith.

Walter, imp.

ÆGITHALUS CONSOBRINUS, *Swinh.*

Chinese Penduline Tit.

Ægithalus pendulinus, Radde, Reis. Sibir., ii. p. 195 (1863).

——— *consobrinus*, Swinhoe, P. Z. S., 1870, p. 133.—Id. P. Z. S., 1871, p. 362.

MR. SWINHOE thus describes his first meeting with the present species:—"Walking through the immense market-town of Sha-She, on the river below Ichang, I spied a pair of these little Penduline Tits in a cage on a shop counter. I was told that they were captured in the neighbourhood. I consider the discovery of this species most interesting, as affording a case analogous to that of *Cyanopica*, which appears restricted to Spain and Portugal in Europe, and then turns up in China about the Yang-tze and northwards, extending to Japan, in a somewhat modified form. The Penduline Tit occurs only in South Europe, and we find it again, rather changed, on the banks of the Yang-tsze 850 miles from the sea."

Although at the time that Mr. Swinhoe wrote it was perfectly true that a distance of thousands of miles separated the two known species of the genus, it need not now be a matter of surprise that an *Ægithalus* should be found in China; for about the same time that one turned up in the latter country, the Russian explorers in Central Asia were discovering other members of the genus: M. Severtzoff has described several new species of *Ægithalus* from Turkestan; and although I can hardly believe that they are all specifically distinct, there can be no doubt that the genus is strongly represented in Central Asia.

Even before Mr. Swinhoe had discriminated the species, it seems to have been met with in Eastern Siberia by Dr. Radde, who, however, does not appear to have distinguished it from the European bird. He writes:—"About the middle of September this Titmouse appeared in small bands among the osiers that line the banks of the Amoor in the Bureja Mountains. I brought with me a nest from the neighbourhood of Selengirsk; it breeds on the island of Selenga, and makes its nest chiefly of sheep's wool, in which goat and horsehair, occasionally also dry grass-stalks, are interwoven. The inhabitants here call it 'Remess.'"

The following is Mr. Swinhoe's description of the species:—

Male.—Crown light grey, with a few blackish streaks and a few broader white ones. A black line runs over the bill, lores, under the eye, over the ear-coverts, and a little beyond. Above the black over the bill a white line occurs, passing in a distinct eyebrow over and beyond the eyes; under the black line a white one starts from the base of the lower mandible, and extends onward to meet the eyebrow white beyond the black ear-coverts. Back and scapulars light russet-buff, a deep russet or maroon collar stretching across the hind neck; wing-coverts blackish brown, the lesser broadly margined with russet-buff, the greater on basal half with deep russet, on apical half with light buff. Winglet and primaries hair-brown, narrowly edged with brownish white; the secondaries broadly so, russet at base of edgings, increasing greatly on the tertiaries, which are nearly white, the brown being washed with chestnut and confined to the neighbourhood of the shafts. Lower back well tinged with buff; upper tail-coverts whity-brown, with blackish median streaks. Tail hair-brown, with light buff edgings to the feathers. Underparts pale russet-buff, nearly white on the throat, deep russet or maroon on the sides of the breast adjoining the nuchal collar; buff on the carpal joint and along the sides of the body; under edges to quills buff-white.

Female.—Dingy grey on the head and hind neck, the dark specks on the crown smaller; back darker and dingier; the nuchal collar and the lateral breast-spot missing; eye-stripe brown instead of black, the white above and below the stripe less pronounced, otherwise similar to the male, but not so bright.

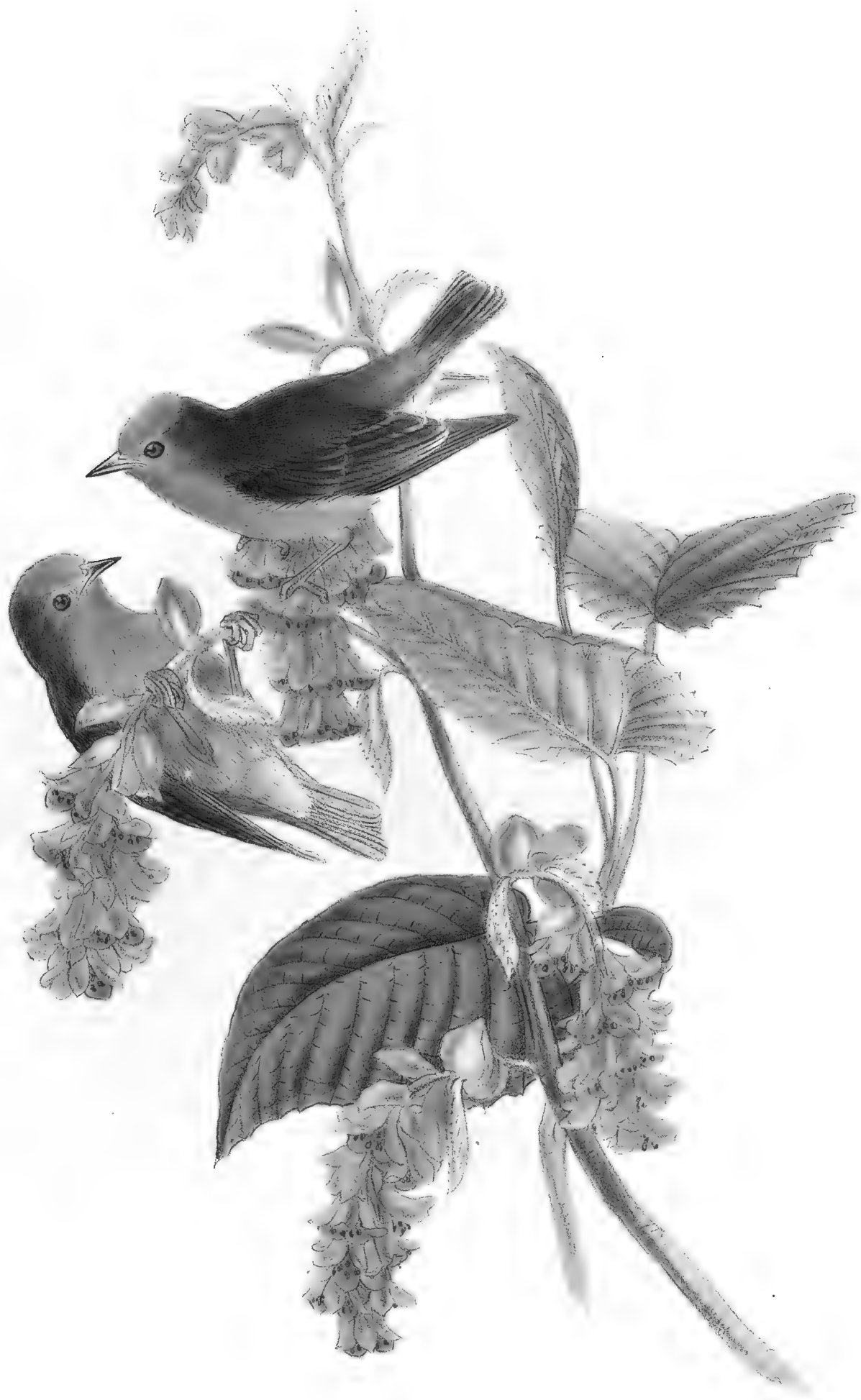
Bill long, conical, and pointed, flesh-white, washed with blackish on the culmen and gonys, darker in the former. The male's bill is darker than the female's. Eyes black. Legs strong, deep dingy indigo-grey, including feet and claws.

Length 4 inches; wing 2·25, first quill diminutive, second and third equal and longest, fourth a trifle shorter; tail 1·75, of twelve feathers narrowing to a point at tips and graduated inwardly or forked, centrals 0·25 shorter than outermost; bill, in front 0·35, to gape 0·44; tarse 0·56; hind toe 0·28, its claw 0·25.

Ægithalus pendulinus, of Europe, has a great deal shorter and smaller bill than the Chinese bird; the black cheek-stripe is more extended, and the white eyebrow and moustache are wanting. The deep russet spreads over the back, scapulars, and wing-coverts.

The figures represent the typical pair of birds, and are of the natural size.





ÆGITHALUS FLAMMICEPS, *Burton.*

ÆGITHALUS FLAMMICEPS, *Burton.*

Flame-fronted Flower-pecker.

- Ægithalus flammiceps*, Burton, Proc. Zool. Soc. pt. iii. p. 153.—Blyth, J. A. Soc. Beng. vol. xvi. p. 444.—Id. Cat. Birds Mus. As. Soc. Beng. p. 105.—Gray, Hand-list of Birds, pt. i. p. 236. no. 3427.
Dicaeum sanguinifrons, Hay, Journ. As. Soc. Beng. vol. xv. p. 44.
Paroides flammiceps, Strickland in Jardine's Contr. Orn. 1851, p. 22.
Cephalopyrus flammiceps, Jerdon, Birds of India, ii. p. 267.—Cock & Marshall, Stray Feathers, 1873, p. 356.—Hume, Nests and Eggs of Indian Birds, p. 400.
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THIS curious little bird, to which has been given the trivial name of Flame-fronted Flower-pecker, is a native of the North-western Himalayas, and occurs in most collections made near Murree and Simla. In structure it is so close to the genus *Ægithalus* that I am unable to separate it; but it seems to differ somewhat in its habits from the true Penduline Tits, and, as will be seen from the notes given below, it does not construct a penduline nest like the last-named birds.

Very little has been recorded concerning its life-history; and all that Mr. Jerdon states is that it "has hitherto been found only in the North-west Himalayas, extending to Cashmere." The following notes also occur in Mr. Hume's valuable work the 'Nests and Eggs of Indian Birds':—

Writing from Murree, Captain Marshall tells us, "On the 25th of May we found the nest of this species in a hole in a sycamore tree, about 15 feet from the ground. The nest was a neatly made, cup-shaped one, formed principally of fine grass. We were, unfortunately, too late for the eggs, as we found four nearly fledged young ones, showing that these birds lay about the 15th of April. Elevation 7000 feet."

Captain Cock says, "I found a nest in the stump of an old chestnut tree at Murree. The nest was about 13 feet from the ground, near the top of the stump, placed in a natural cavity; it was constructed of fine grass and roots carefully woven, and was of a deep cup-shape. It contained five fully fledged young ones. The end of May was the time when I found this; and I have never yet succeeded in finding another."

The following description is given by Dr. Jerdon:—"Above yellowish green, brightest on the rump and upper tail-coverts; forehead, top of head, and chin rich shining orange-red; wings dusky, edged with green, and with two light bars on the wing-coverts; beneath golden yellow, paling on the lower abdomen and under tail-coverts. The female has no red, and is duller yellow underneath. Bill plumbeous; legs leaden brown.

"Length 4 inches; wing $2\frac{1}{2}$, tail $1\frac{3}{8}$, tarsus not quite $\frac{1}{2}$, bill at front 8 millims."

The figures are taken from an example in my own collection, and are of the size of life.







ORIOLES CHINENSIS. Linn.

ORIOLOUS CHINENSIS, Linn.

(Philippine Oriole.)

- Le Lorient de la Cochinchine*, Brisson, Ornithologie, ii. p. 326, pl. 33, fig. 1 (1760).
Oriolus chinensis, Linn. S. N. i. p. 160 (1766, ex Briss.).—Gray, Gen. B. i. p. 232 (1845).—Blyth, Journ. Asiatic Soc. Bengal, xv. p. 46 (1845).—Id. Cat. Birds Mus. Asiatic Soc. Bengal, p. 215 (1849).—Horsfield & Moore, Cat. Birds Mus. East-India Co. i. p. 270 (1854).—Gray, Hand-list of Birds, i. p. 292 (1869).—Sharpe, Catalogue of Birds, iii. p. 203 (1877).—Id. Transactions of the Linnean Society, 2nd series, Zool. vol. i. (1877).
Le Couliavan de la Cochinchine, D'Aubert. Pl. Enl. 570.
Oriolus acrorhynchus, Vigors, P. Z. S. 1831, p. 97.—Gray & Mitchell, Gen. B. i. p. 232, pl. 58 (1845).—Bonaparte, Consp. Gen. Av. i. p. 348 (1850).—Schlegel, Mus. Pays-Bas, Coraces, p. 104 (pt. 1867).—Walden & Layard, Ibis, 1872, p. 101.—Hume, Stray Feathers, 1875, p. 132.
Oriolus cochinchinensis, Bonaparte, Consp. Gen. Av. i. p. 348 (1850).
Broderipus acrorhynchus, Walden, Transactions of the Zoological Society, ix. p. 185 (1875).

THIS is by no means a common species in collections; and yet it is one of the first Orioles known to science, having been described by Brisson more than one hundred years ago. From the account of the latter author, there can be no doubt that the species described by him as coming from China was in reality the Philippine bird; and although I follow in this instance the nomenclature adopted by Mr. Sharpe, I confess that I attach with regret the name *chinensis* to a bird which we now know positively never to occur in China. This is the more to be deplored, as there actually exists in China an Oriole belonging to the same black-naped section of the genus as the present bird.

When the Marquis of Tweeddale published his paper on the birds of the Philippine archipelago, the species was known to occur in the islands of Luzon, Guimaras, Negros, and Zebu, from all of which Dr. Meyer had obtained specimens. Dr. Steere, further, procured it in Mindanao and Balabac. Lord Tweeddale gives an interesting account of the plumages in this species, which I transcribe entire:—"A large series of individuals obtained by Dr. Meyer illustrates the varying relative proportion of yellow and black on the head in different examples of this fine Oriole. In a Luzon female, immature, the middle rectrices are tinged with green; the enclosed yellow frontal space extends fully for seven-eighths of an inch from the base of the culmen. In a perfectly adult Guimaras male with jet-black middle rectrices and quills, and rich orange-golden dorsal plumage, the forehead only is yellow, occupying a depth of only two-eighths of an inch. This example, in the distribution and proportions of its black and yellow plumage, is almost absolutely identical with a Sula-Island specimen of *B. frontalis* (Wallace). The Sula example, however, has the middle pair of rectrices entirely black, whereas all the Philippine examples have those feathers more or less tipped with yellow; moreover the Philippine is a much larger bird, with a longer wing and bill. The extent of yellow at the termination of the middle pair of rectrices varies very considerably. In a Negros male in full golden-orange plumage the tips of the middle pair are but barely fringed with yellow. In a Luzon male in similar dress the two middle rectrices have a yellow terminal band nearly half an inch in depth."

Adult.—Above bright golden yellow; lores, feathers round the eye, hinder crown, and nape black, forming a broad horseshoe; sides of face, neck, and entire under surface of body bright yellow, like the back: wing-coverts bright golden yellow; bastard wing, primary-coverts, and quills black, with a spot of yellow at the tip of the outer web of the inner secondaries, increasing on the innermost, where it occupies nearly the entire outer web; tail black, broadly tipped with bright yellow, this occupying the terminal third of the outermost rectrix and gradually decreasing towards the centre of the tail, the two centre feathers being merely tipped with yellow; "bill pink-rose-coloured; feet and claws blue-grey" (Meyer). Total length 11.5 inches, culmen 1.45, wing 6.2, tail 4.35, tarsus 1.1 (Sharpe's Cat. B. l. c.).

Young Male.—Differs from the adult in being greener on the back, the quills and tail-feathers brown instead of black; two centre tail-feathers olive-greenish, the rest greenish at the base, the tips broadly yellow, with a subterminal blackish shade; head dull yellow, with a horseshoe mark on the hinder part of the crown dusky black streaked with yellow; sides of face and under surface of body bright yellow, with a few narrow streaks of black on the chest. Total length 10.2 inches, culmen 1.35, wing 5.6, tail 4.3, tarsus 1 (Sharpe, Cat. B. l. c.).

The figure in the Plate is drawn from a beautiful Manila skin in my own collection, of the size of life.



ORIOIUS BRODERIPI, *Bonap*

ORIOLOUS BRODERIPI, *Bonap.*

Broderip's Oriole.

Oriolus broderipi, Bonap. Proc. Zool. Soc. 1850, p. 279, pl. xviii.—Id. Consp. Gen. Av. i. p. 348.—Wallace, P. Z. S. 1863, p. 485.—Schlegel, Mus. Pays-Bas, Coraces, p. 106.—Id. Dierent. p. 179.—Finsch, Neu-Guinea, p. 173.—Gray, Hand-list of Birds, i. p. 291.—Sharpe, Catalogue of Birds Brit. Mus. p. 201.
Broderipus refulgens, Bonap. Comptes Rendus, xxxviii. p. 538 (1854).
Euchlorites broderipi, Heine, Journ. für Ornithologie, 1859, p. 402.

THE subject of the accompanying Plate is one of the most beautiful of all the Orioles. Of the latter family there are about forty species, the majority of them being birds of a brilliant plumage, in which the richest yellow is contrasted with a wing and tail of the deepest black. There are, in fact, four divisions of the true Oriole (*Oriolus*), without mentioning the Bare-faced Orioles of Australia and Papuasia, which belong to the genus *Sphecotheres*. There are, first, the Orioles with a perfectly yellow head, to which section belong our own Golden Oriole of Europe and certain allied species; secondly, there are the Yellow-headed Orioles with a black horseshoe mark on the head; thirdly, the dull-coloured Orioles with olive-coloured or brown plumage; and, lastly, the black-headed Orioles.

Broderip's Oriole belongs to the second section, which contains the Orioles having a black horseshoe mark on the head. Not one bird of this section is found in Africa or Australia; they are confined to the Indian Region and Malayan archipelago: and in the latter archipelago they seem to reach their utmost development both in size and in richness of colour; for a more beautiful Oriole than the one selected by me for illustration in the Plate probably does not exist.

All those who knew the late Mr. Broderip will rejoice that his name is associated with so beautiful a bird, which recalls the memory of a genial and well-beloved man whose claims science has scarcely sufficiently recognized. As the owner, however, of the original specimen of the beautiful *Euplectella aspergillum*, his name is not likely to be forgotten by those who remember the interest with which this remarkable sponge was received in scientific circles when it was first described by Professor Owen.

I regret that not a single word has been recorded concerning the habits of this fine bird, which is an inhabitant of the islands of Lombock, Sumbawa, and Flores, and I can only add the description of the species which is given by Mr. Sharpe in his 'Catalogue of Birds.'

"*Adult male*. General colour above and below brilliant golden yellow, deepening into orange; forehead golden; crown of head and nape, as well as the lores and feathers round the eyes, black; least wing-coverts orange like the back, the greater series bright yellow, the inner webs of this series black; bastard wing, primary-coverts, and quills jet-black, the primary-coverts tipped with yellow, forming a speculum, the primaries externally edged with grey, the secondaries narrowly margined with grey near the tips, the innermost more broadly tipped with yellow on the outer web; tail black, the two centre feathers broadly tipped with yellow, the rest orange-yellow at the tip, the black bases markedly decreasing towards the outer feathers of the tail; 'bill pink; feet black; iris red' (*Wallace, MS.*). Total length 12 inches, culmen 1.5, wing 6.2, tail 4.7, tarsus 1.15.

"*Young*. Much paler and more yellow, the black on the head forming a ring round the nape, leaving the rest of the head yellow, whereas in the adult the yellow is confined to a small frontal patch, the rest of the crown being black; wings brownish, the primaries externally margined with greyish, the secondaries washed with olive and externally edged with yellow near the tip; two centre tail-feathers olive-greenish, tipped with yellow, the rest of the feathers olive-green at base, bright yellow at the tip, with a more or less subterminal shade of black; entire under surface of body bright yellow, including the under wing- and tail-coverts; the lower surface of the quills dark brown, buffy white at the base of the inner web."

The figures in the Plate represent a richly coloured old male of the size of life, and are drawn from a specimen in my own collection.



PSAROPHOLUS TRAILLII.

J. Gould & H. C. Richter, del. et lith.

Walter, Imp.

PSAROPHOLUS TRAILLI.

Maroon Oriole.

Pastor Traillii, Vig. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part i. p. 176.—Gould, Cent. of Birds, pl. xxxv.

Oriolus Traillii, Hodgs. Journ. Asiat. Soc. Beng., vol. v. p. 772.—G. R. Gray, Cat. of Spec. and Draw. of Birds pres. by B. H. Hodgson, Esq., to Brit. Mus., p. 87.—M'Clell. in Proc. of Zool. Soc., part vii. 1839, p. 160.—Blyth, Journ. Asiat. Soc. Beng., vol. xi. pp. 192 and 797, vol. xv. p. 45; Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 215; Ibis, 1867, p. 11.—G. R. Gray and Mitch. Gen. of Birds, vol. i. p. 232, *Oriolus*, sp. 16.—Horsf. and Moore, Cat. of Birds in Mus. East-Ind. Comp., vol. i. p. 272.—Jerd. Birds of India, vol. ii. p. 112.

Psaropholus Traillii, Jard. and Selb. Ill. Orn., 3rd ser. pl. xxvi.—Bonap. Consp. Gen. Av. p. 345.

Analcipus Traillii, G. R. Gray, List of Gen. of Birds, 2d edit. p. 38, and Hand-list of Birds, part i. p. 290.

THIS, one of the finest and most attractive of the Insectorial birds of the Himalayan region, is to all intents and purposes a true Oriole; yet it has been generically separated by some of our best ornithologists from the other members of the genus *Oriolus*; and in following in their wake I must admit that I am acting inconsistently with my conviction. The late Mr. Vigors regarded it as a *Pastor*, and so described it in the first part of the 'Proceedings of the Committee of Science and Correspondence of the Zoological Society;' and as such it also appeared in my 'Century of Birds.' Sir William Jardine and Mr. Selby made it the type of their genus *Psaropholus*; by Mr. Hodgson it was placed in that of *Oriolus*, rightly in my opinion; while Mr. G. R. Gray includes it in the genus *Analcipus*, of which *A. sanguinolentus* is the type, a Javan form, of which, I believe, no other species is known; if, however, as is generally admitted, *Mimeta* is separable from *Oriolus*, then, of course, *Psaropholus* is also. The solitary *Analcipus*, I consider, differs sufficiently to render a separate generic designation necessary.

It is somewhat surprising that very little has been recorded respecting the habits and economy of this bird, since it must have come under the observation of many naturalists and travellers who have visited the Himalayas; yet the following brief note by Dr. Jerdon is all I can find respecting it.

"This curiously plumaged Oriole," says this gentleman, "is found in the eastern part of the Himalayas, Nepaul, and Sikhim, extending into Assam, Arrakan, and Tenasserim. It is met with at about 2000 to at least 7000 feet of elevation, generally in small flocks, keeping to high trees, and has a fine loud mellow call. Those I examined had fed upon caterpillars only."

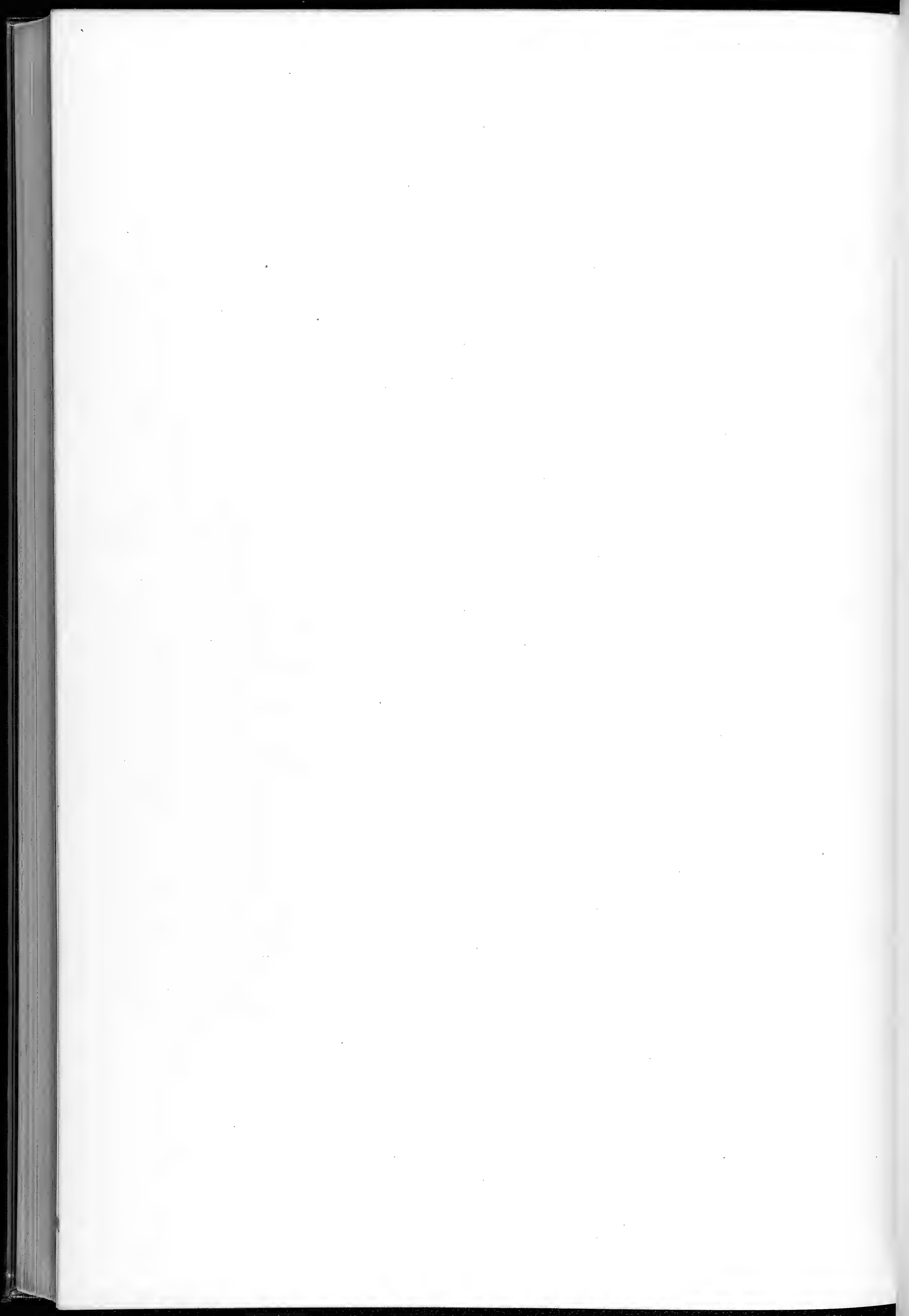
It has not yet been ascertained whether the females assume a similar but less brilliant colouring than that of the males, or whether the birds with striated breasts are young individuals or fully adult females; in all probability the latter is the case, and my Plate represents an old bird of each sex.

The male has the head, neck, and wings of a fine glossy black; plumage of the body, both above and beneath, dark glistening maroon-red, the basal portion of the feathers white and occasionally appearing between the maroon-coloured tips; tail of a similar but very much lighter tint, the shafts yellowish white for two thirds of their length from the base; bill lively leaden blue; irides pale yellow; legs and feet lead-colour.

The female has the head and upper surface brown, darkest on the former; upper tail-coverts red, as in the male, but less bright; wings brownish black; tail red, the external feathers broadly margined externally with brown; the two central ones brown, with a streak of red down the middle of the basal portion; under surface dull white, with a stripe of dark brown down the centre of each feather, and a slight wash of maroon-red on the throat and breast; bill and feet as in the male, but not quite so clear.

"The young bird is brown above, darkest on the head, has the tail red, is of a sullied white beneath, with numerous longitudinal brown streaks; and the iris yellowish brown."—Jerdon.

The figures are of the size of life.





PSAROPHOLUS ARDENS, Swinh.

PSAROPHOLUS ARDENS, Swinh.

Red Oriole.

Psaropholus ardens, Swinh. in Ibis, 1862, p. 363, pl. xiii.; 1863, p. 293; and 1866, pp. 297 and 398.

——— var. *nigellicauda*, Swinh. in Ibis, 1870, p. 342.

Analcipus ardens, G. R. Gray, Hand-list of Birds, part i. p. 290.

I DEEM this lovely bird one of the most interesting of Mr. Swinhoe's many important discoveries, since it is still more beautiful than its Himalayan ally, the *Psaropholus Trailli*. Its native habitat is the island of Formosa and (if the bird he has named *Psaropholus ardens*, var. *nigellicauda*, is merely a local variety, as it is now supposed to be) the island of Hainan. If there is any difference in the size of the three, the Himalayan *P. Trailli* is the largest, the Formosan *P. ardens* somewhat smaller than that bird, and the supposed variety from Hainan still a little less in all its admeasurements.

These red-coloured birds from Formosa and Hainan are intensely bright when compared with the maroon-hued species from the Himalayas, and are thereby distinguishable from it at a glance; while in every other respect they are very similar.

The following notes respecting the Red Oriole are extracted from Mr. Swinhoe's "Notes on the Birds of the Islands of Formosa and Hainan":—

"This bird is an inhabitant of the mountain-ranges of Formosa, where it frequents the jungly bush of the exalted valleys, and displays its gaudy tints among the gigantic leafy boughs of the far-famed *Laurus camphora*, which towers at intervals among its entangled fellows of the wood. In summer it resorts to the highest ranges, some of which are perennially covered with snow. In winter it returns to the more accessible mountains bounding the Chinese territory, merely changing its residence from a lower to a higher elevation, and *vice versâ*, according to the season. In habits, the Red Oriole nearly approaches its allies of the Yellow group, and feeds, like them, on berries, chiefly those of figs. Its notes are loud and harsh.

"In a trip to the Formosan mountains I put up at a village, and at an early hour strolled up the hill to a clump of fine trees; on the bare branches of a large *Bombax malabaricum* I noticed a *Psaropholus ardens*, its bright crimson plumage making a lovely contrast with the dull-red flowers of the tree, and the light-green bursting leaves. I rushed back for a gun, and shot him. He showed still the whitish underparts and streaks of immaturity; but the great question was solved. I had accepted hearsay evidence that its iris was red; I now found that it is white, like that of its congener *P. Trailli*. The white is encircled near the eyelids with a black rim; the eyelids are lead-colour; the bill bright French-blue; tongue yellowish, with a broad bifid black tip. The stomach was full of small figs, either of the banyan or some allied species. When picked up, the wounded bird screeched just as Yellow Orioles do.

"All my specimens were procured near Tamsuy in March and April 1862."

Respecting the bird found in Hainan, and which Mr. Swinhoe named provisionally *nigellicauda*, he says:—

"On the 20th of February, 1868, at Taipingsze, in Central Hainan, I spied a solitary male Red Oriole, and, after much chasing from one wood to another, at last secured it. On taking it into my hand, I thought, from the black hue of its tail, that I had got a new species. Its iris was yellowish cream-colour. A few days later, on my return to the same place, I was attracted by a bird singing to himself, in loud broken notes, hidden in the forked branch of a high tree. I watched till I could see him, and brought down a young male. I saw a second red male in the jungle at Yulinkan, in South Hainan.

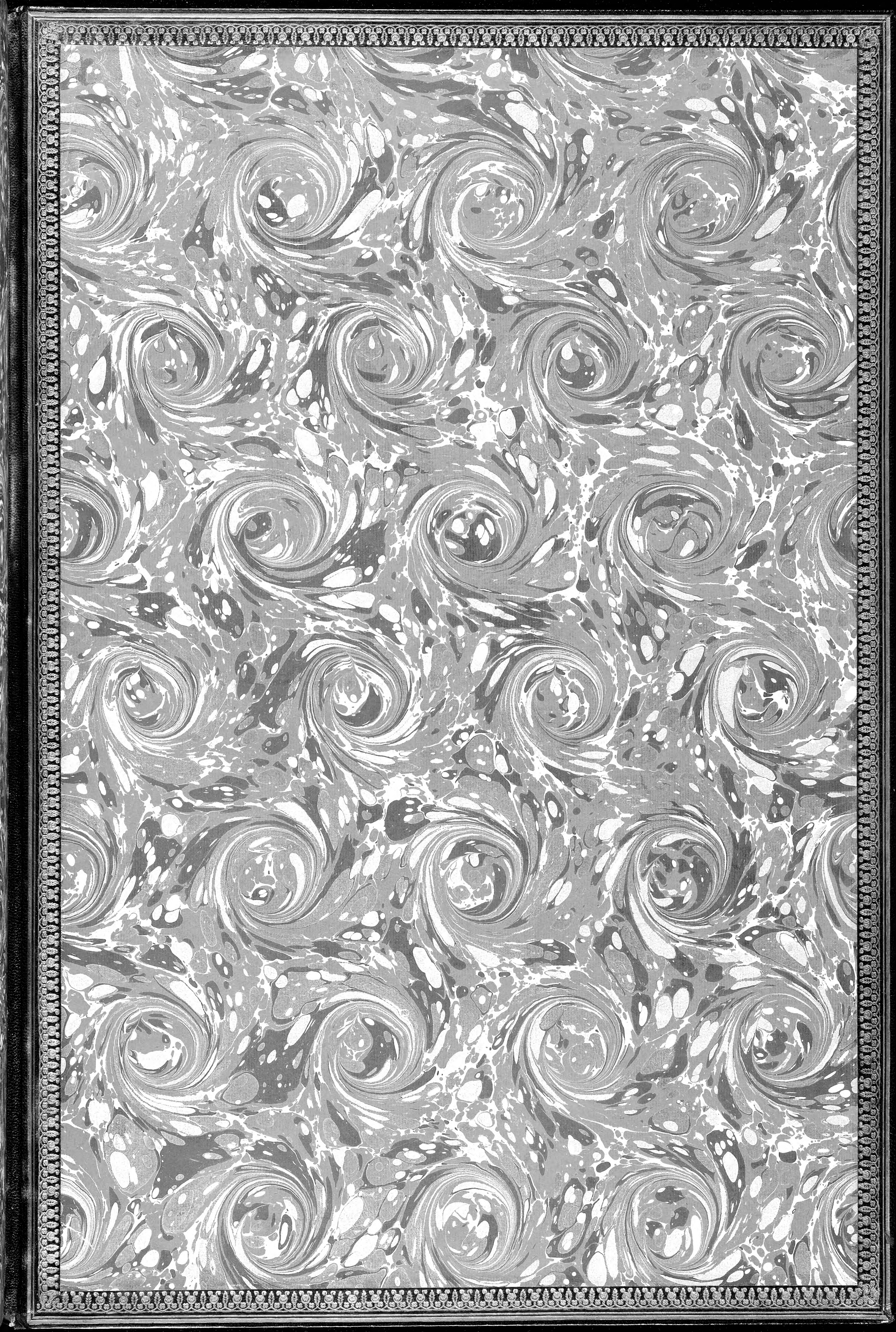
"These specimens are shorter in the wing and longer in the tail than the Formosan *Psaropholus ardens*; and in the full-plumaged example the black of the neck appears to extend less far down."

"*Male*.—Head, neck, wings, and tibial feathers black; remainder of the plumage of a fine cochineal-red, paler on the tail; bill light cobalt-blue; skin round the eye violet-grey; iris white; legs leaden grey; soles and claws dingy.

"The female has the head, sides, and back of the neck black; wings very dark brown; back reddish cinnamon, deepening into scarlet on the upper tail-coverts; the under tail-coverts are also scarlet; two central tail-feathers brown, the remainder brown on their outer webs and scarlet on the inner ones; under surface broadly striated with black and dull white; bill, legs, and feet as in the male, but not so vivid."

The Plate represents the two sexes, of the natural size.





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